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JANUARY-FEBRUARY 1982

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ENERGY AND THE THIRD WORLD

DEVELOPMENT UPDATE

Speaking of energy . . . conventional, commercial, traditional, renewable. Are you in the dark? Here are a few definitions that may shed some light on an issue you'll be reading more and more about.

Conventional: Those sources that have provided the bulk of the requirements for modern industrial society. They are coal (including lignite and peat), petroleum (including fuel oil, gasoline, kerosene, diesel fuel, natural gas and liquefied petroleum gas); and electricity generated by burning any of these fuels, or from hydro or nuclear power.

Traditional: Often synonymous with biomass, the term generally refers to combustible and/or fermentable material of vegetable origin.

Renewable: A form whose supply is partly or wholly regenerated during the year. Thus solar and wind energy, hydropower and fuels from vegetables are regarded as renewable. Mineral fuels and nuclear power are not.

Biomass Fuels: Combustible and/or fermentable material of vegetable origin, for example wood, charcoal, corn cobs, cotton stalks, rice husks, dung cakes.

Liquefied Natural Gas (LNG): Methane gas, liquefied by refrigeration to −161.4°C (−258.5°F).

Liquefied Petroleum Gas (LPG): Propane and butane gas liquefied, at ambient temperatures by pressure, or refrigerated to −45°C (−50°F) at atmospheric pressure.

Natural Gas: Any hydrocarbon or mixture of hydrocarbons occurring in a gaseous state at ambient temperature and pressure (principally methane).

Oil Shale: Sedimentary rock containing solid organic matter that can be extracted in liquid or gaseous form by heat.

Recoverable Reserves: Reserves of oil and gas recoverable from known reservoirs, with existing technology, under present economic conditions.

Ultimate Recoverable Reserves (URR): The total amount of oil and gas recovered and believed to be recoverable from both discovered and undiscovered reservoirs, in the light of probable improvements in technology, and based on a geological evaluation of a particular area or territory.

Retrofitting: Installing an energy saving device or process (or an alternative type of boiler) after a plant has begun operating.

Synthetics or Synthetic Fuels: Fuels derived by chemical or other industrial processes from biomass, coal or petroleum.

Tar Sands (also known as "Oil Sands"): Sand and sandstone impregnated with heavy oil.

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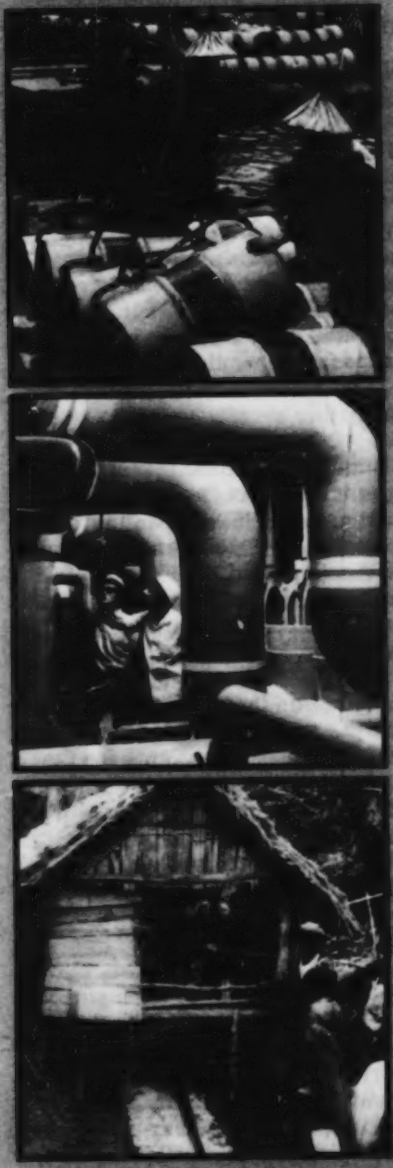
agency for international development



Difficult decisions lie ahead for leaders of developed and developing countries alike: how to plan for, and meet escalating energy demands. The following issue explores aspects of the particular problems facing the Third World.

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ENERGY NEWS BRIEFS

The Good and the Bad of Wood Smoke

The good news is that despite warnings about the hazard to health that wood smoke can be, it has its benefits, too.

For example, wood smoke is a food preservative, and it has an effect not unlike creosote in preserving the roof timbers and thatch of many houses. Moreover, it's been known to act as an insect repellent.

Many people in Kenya store maize in a loft over the three-stone cooking place. The warm smoke rising through the maize—still in the husk—dries it. From Cameroon to Guatemala and Nepal, people in developing countries have used smoke similarly to preserve food of various kinds. And for many more people, smoke is considered a preferable alternative to mosquitoes and flies.

But the bad news is that a new study recently released by the energy task force of the United Nations Environment Program (UNEP) shows that wood smoke contains a total of 37 pollutants, carcinogens and toxic agents. Another study in Fiji done for Canada's International Development Research Center, points to sustained exposure to a smoky atmosphere as the probable cause of chest complaints and eye irritation.

A compromise may lay in building stoves that have short chimneys that lift the smoke out of faces but not out of the house. Often houses have vents for the smoke to escape. For preserving roof beams, regular heavy fumigation might be just as effective as daily smoke and could be done on a ritual basis, twice a year for instance, by building a large smoky fire in the house and vacating the premises for a few hours. □

AID Spurs Photovoltaics

AID's photovoltaic development and support program is making strides in stimulating the use of renewable energy technology in the Agency's Third World projects. An earlier project—a solar-powered grain mill and water-pumping station in Upper Volta—showed that rural Third World citizens can operate and maintain modern energy-saving systems.

AID is extending photovoltaic techniques to health care in Kenya, Zimbabwe, Ecuador and Guyana. Solar-powered refrigerators to store vaccines in tropical climates recently passed laboratory tests; field testing starts later this year.

Potential applications in conjunction with AID's rural satellite communication project are being considered. The five-year satellite program is showing Third World countries how satellite technology can help them solve communication problems in rural areas. Working with NASA's Lewis Research Center in Cleveland, AID hopes to come up with an affordable photovoltaic power unit for earth stations. □

Most Energy Used in Households

Household energy consumption continues to account for between 40% to 60% of total energy budgets in the Association of Southeast Asian Nations (ASEAN) countries, and is often much higher in many of the developing countries in Africa and South Asia, according to a report released by the Center for International Development and Technology.

Statistical data comparing the use of commercial fuels to noncommercial or traditional fuels are confusing, says the report. Commercial fuels encompass fairly modern use of fossil fuels plus hydroelectric power; all other burnable fuels are included in the noncommercial category, though charcoal and firewood have been sold in local markets for centuries.

Dung, agricultural residues, twigs, leaves, and bushes are other traditional fuels. Recent attempts to filter available data indicate that traditional fuels accounted for between 50% and 70% of the total energy used in 1976 in Indonesia, Malaysia and Thailand. Forty-eight developing countries—with 16% of the world's population—use more firewood than commercial fuel.

Most of this is used for cooking, according to the report's author, Irene Tinker. As the cost of commercial fuel goes up, more and more of the energy comes from human and animal sources. Efforts to reduce fuel consumption among the poor through improved cookstoves have not been successful. Despite the critical energy shortage, people are resisting new technology, such as improved community forests, biogas digesters and mini-hydro installations.

How available energy sources are plays a heavy role in the often life-death drama of day-to-day living for the poor in developing countries. Population pressures and the monetization of the countryside are adding daily to the pressure on the system. The growing scarcity of fuel and its rising price have added to this intolerable burden. People already eking out a bare existence are pushed out of rural areas; the more adventurous seek the cities. The protective survival system continues to be stretched to support those left in rural areas. Even urban villagers tend to use their rural connections as a safety net and often continue to live village lives in towns, Ms. Tinker points out.

The poor city dwellers and rural villagers also tend to avoid risk-taking. Their very strategies for survival are a major obstacle to the use of new energy technology. But their hesitations are frequently well-founded.

It is imperative, the report concludes, that planners understand the reality of survival strategies as well as the likely impact that new technology will have on those likely to be affected at the household and village levels. Only then can the technology itself and the method of its introduction be sufficiently adapted for widespread use. ☐

"Growing" Gasoline Captures Attention

Plant biomass, or the conversion of vegetable matter into liquid, solid and gas fuels, is attracting increasing attention as a promising alternative energy source. Some fast-growing trees, within a few short years from their start as seedlings, can be harvested for conversion. The *Pinus caribaea*, for example, is a pine that grows almost 100 feet in 12 years. Yield: 120 tons an acre.

The gopher plant, common in southwest United States, yields a product similar to crude oil when refined and can produce from six to more than 10 barrels of oil an acre. Tests show that 1,000 tons of dried gopher wood can yield about 80 tons of oil and 200 tons of sugar, which can then be distilled into alcohol fuel. The Euphorbia is not fussy about its soil and will grow in semi-arid regions.

In Brazil, the copaiba tree needs no conversion. When tapped it produces oil which can be transferred directly into the fuel tank of a diesel engine. A single tree can yield 21 to 32 gallons every six months. ☐

Geothermal Energy: Harnessing the Earth's Heat

The earth's heat—geothermal energy—from hot springs, geysers, volcanoes and the ocean is being developed as a low-cost energy source.

The idea is not new. Geothermal energy was used to heat the Roman baths. Japan started generating electricity from geothermal energy in the late 1920s. Indonesia began exploratory drilling in 1926, but the low price of oil made interest in geothermal energy subside. By 1976, however, Indonesia started drilling again to run a power plant.

Today, at least 22 countries are developing geothermal resources to produce electricity. The Philippines produces over 4% of its electrical needs from volcanoes; by 1985, the government plans for this to account for over 12%. The Philippines says geothermal energy development is 50% cheaper than nuclear power and 80% cheaper than oil. In Israel, experts are evaluating the use of geothermal brine found in "dry" oil wells as a low-cost energy source.

The ocean's heat also can be harnessed. Ocean Thermal Energy Conversion (OTEC) systems use temperature differences in the ocean's waters to produce usable power. While still in the experimental stages, including a prototype in Hawaii, this form of energy holds promise for developing nations, especially the smaller island nations. ☐

Pedal Power: Low Cost and Efficient

Pedal power and children's swings are just two of the many "technologies" being mobilized in the battle to discover low-cost, alternative systems. Pedal power works well when small amounts of power are needed at irregular intervals. It has been used to pump water, thresh grain and generate electricity.

Take the Oxtrike. This three-wheeler is capable of carrying up to 330 pounds (150 kg). And the Railbike. It's designed to be ridden on rail tracks. A two-person pedal-power farming system, the Mechanical Mule is a bicycle winch that reels in a steel cable attached to a mobile tool carrier, equipped interchangeably with a plow, harrow or cultivator. All are described in detail in the National Academy of Sciences' "Supplement: Energy for Rural Development." The book, available through AID's Office of Development Information and Utilization, also explains a very low-cost, small, light-weight, foot-powered water pump developed by engineers at the International Rice Research Institute (IRRI). The operator stands on footrests at either side of the pump and rocks to compress a diaphragm that forces water from the outlet valve.

In Zimbabwe, a swing-operated lifting pump has been built at a school near Salisbury as an experiment in using "child energized" appropriate technology. The pump was designed by the Blair Research Laboratory in Salisbury.

The "swing pump" makes use of the forces applied to the device, and at the same time "does not distract from the sheer joy children get out of swinging to and fro," says Blair in a research report, available through AID.

Lifts of at least 10 meters can be made with this system, which is still in the experimental stage. The pump was designed to lift water from wells at schools or other areas where there are lots of children. It is best used when connected to storage tank facilities to supply households or water gardens.□

Fish Food from Fuel Factories

A highly polluting organic waste from Brazil's gasohol program could become a bonus for the country's fishing industry, according to the World Environment Report.

By 1985 Brazil expects to be producing 10.7 billion liters of alcohol-based fuel each year. But for every liter of alcohol produced, 13 liters of slurry or swill are left over from the distilling process. When this slurry is illegally dumped into rivers, its decomposition absorbs an enormous amount of oxygen. As a result, fish and other aquatic life die of oxygen starvation.

But scientists have noted that when the slurry reaches the ocean there is a sharp rise in the quantities of fish and plankton. Researchers from Rio de Janeiro's Industrial Technology Foundation are investigating the possibility of piping the distillery slurry to the coast for selective dumping.

Brazil has an extensive coastline and a fledgling industry. The lack of nutrient upswelling currents in coastal waters, however, keeps fish stocks low. Recycling the organic slurry may turn an environmental problem into a bonus. □

What About Ethanol?

Ethanol is considered one of the most promising substitutes or additives for petroleum products in some developing countries. However, the fact that there is a limited amount of land available for growing crops that can be converted into ethanol, and the fluctuation of economic factors—the price of sugar, for example—are slowing ethanol fuel programs down.

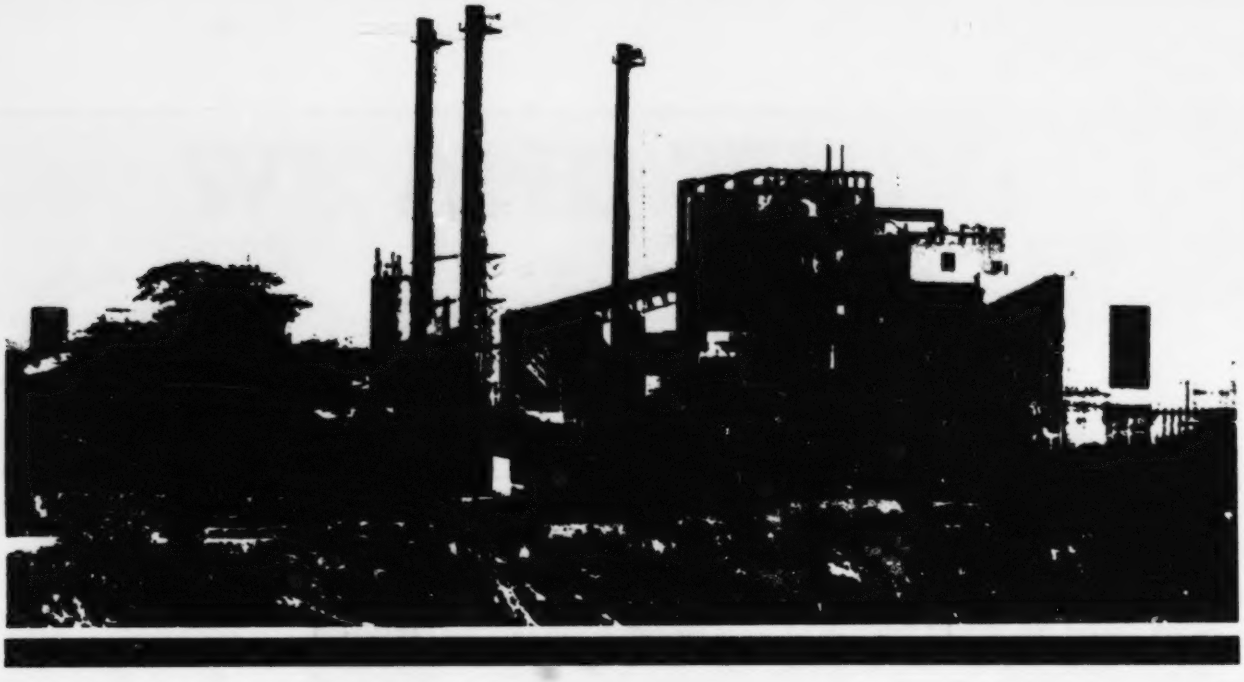
Produced by fermenting and distilling starch or sugar from raw materials such as molasses, sugarcane, cassava, sorghum, and corn, ethanol can be used to power vehicles either in its pure form or when blended with gasoline.

According to a recent World Bank report, "Alcohol Production from Biomass in the Developing Countries," there are three advantages in putting an ethanol production program into operation, these in addition to the direct economic benefit of utilizing a renewable energy source:

- Basic technology is well-known and appropriate for transfer to most developing countries.
- Alcohol production can offer markets for surplus agricultural production and for agricultural wastes that can be burned to generate steam and power for the ethanol production plants.
- Ethanol production requires medium-scale industrial units that can create jobs for people in remote areas.

But there are constraints. The major one is the scarcity of agricultural land on which to grow biomass crops. Large-scale alcohol production means difficult trade-offs in most countries between growing crops for food and for energy production.

Fluctuations in world molasses prices already have affected the possible economic benefits of some potential ethanol-producing countries according to World Bank energy adviser, Richard Dosik. Since the price of molasses doubled last summer, countries now might do better to sell the excess molasses abroad rather than convert it into ethanol. □



India looks to a traditional power source

While researchers in many countries favor the extensive development of sophisticated new energy-harnessing techniques, some experts in India feel it is essential for the country to improve traditional energy sources. One of them is animal power.

Dr. N.S. Ramaswamy, director of the Indian Institute for Management at Bangalore (IIMB), which has been working on a project to modernize the bullock-cart system, estimates work animals in India provide as much energy as the country's entire electrical system.

Despite this colossal contribution, animal power remains neglected. Why? Dr. Ramaswamy feels that scientists and policy makers view animal energy as a passing phase in India's social and economic development. They believe modernization of agriculture and transport will eliminate work animals.

But they are mistaken, argues Dr. Ramaswamy. More than half the country's farm holdings are less than two hectares (five acres). Similarly, only half of India's villages have paved roads on which trucks can ply. The bulk of the rural produce is carried to market towns on bullock-carts.

Moreover, animal power is the only alternative energy source already within the economic reach of the poor majority. Solar and wind power systems and biogas plants, for instance, will take decades to meet the needs of the rural poor. "Whatever efforts are now going on regarding animal energy are only a fraction of what is needed, considering the vast existing investment and the vast potential of economic benefits to the country," says Dr. Ramaswamy.

There are more than 12 million bullock-carts operating in India today, and about 20 million people involved part-time or full-time in the cart business. This is the same number as employed in the entire organized industrial and trade sectors of the Indian economy, according to data compiled by the Institute. Dr. Ramaswamy says a rural transportation system based on bullock-carts can provide enormous employment. "So the problem before us," he argues, "is not how to get rid of the bullock-cart, but how to make it more efficient."

Conventional carts have several design defects: their range and load capacity are small; their wheel bearings produce too much friction; and the cart itself is very heavy. The harnessing device is also poor. It consists of two wooden beams attached to a yoke that weighs heavily on the bullock's neck—a force of 100 kg, even if the cargo is only 60 kg. This often reduces the working life of the animal by as much as 10%. While the animal is working, the yoke—usually made of hardwood—bruises and wounds the beast's neck, often producing a cancerous neck gall. A good suspension yoke similar to that used on horses would eliminate the great vertical weight the bullock must now endure.

Some advances now have been made. One company has experimented with pneumatic tires to replace the old wooden ones. This has increased the carrying capacity of the carts from 750 kg to 2,500 kg. Earnings from these improved carts have in some cases quadrupled. And even banks are willing to finance the purchase of them.

Since about two-thirds of the energy used on Indian farms comes from animal power, the Institute has focused attention on improving plows to double the work output of the animals, and on improving the harness used for plowing. ☐

WE AND THEY:

Meeting Each Other's Needs

The United States and developing nations are entwined in a mutual dependence dominated by energy.

The following is adapted and excerpted from "Energy Aspects of the Economic Interdependence between the United States and Developing Countries," prepared by Energy/Development International for the International Development Cooperation Agency.

If in Winston Churchill's phrase, the Allies sailed to victory in World War II on a sea of oil, the Western economies also sailed to global dominance on that same sea. In the 20th century, oil became not only the necessary fuel for industrial development but also the basis for the mobility of modern societies. As oil, an essentially international commodity, replaced the local resources of wood, coal and water, energy systems became increasingly global in scale.

During the last 75 years, the use of energy in all forms has more than doubled every 15 years. Oil, however, has made the most rapid growth of all energy forms. In 1950, for example, oil amounted for only 30% of all worldwide energy consumption. In 1977, it had increased to 55%. Continued growth in oil consumption despite the dramatic prices increases of 1973–74 proves that oil is a difficult fuel to replace. It is still solidly entrenched, both in its utility and by the problems entailed in substituting other fuels.

The developing countries, if anything, have become more dependent on oil than have the industrialized ones. In the OECD countries, oil accounts for roughly 30% of total energy use. In the United States, that figure has been between 42% and 47%. But in the developing countries, it is close to 60% of commercial fuel use.

The United States and developing countries are entwined in a mutual economic dependence that is dominated by the phenomenon of OPEC and the implications of rapidly increasing world prices for oil.

Yet that very interdependence flows through a variety of effects and relationships. At the most general level it's possible to distinguish three avenues of interdependence:

- The direct effects of higher world oil prices and potential in the short term (following a price rise or curtailment) and the long term (in the way of reduced economic growth).
- The effects of higher world prices and recycled petrodollars on the demand for U.S. exports and thereby on the U.S. economy.
- The effects of higher world oil prices and OPEC control of oil supply on political alignments, U.S. geopolitical interests and, thereby, on U.S. economic interests.

The developing nations make up the only group of countries expected to increase their oil demands between now and 2000. Currently accounting for 14% of world oil consumption, they are expected to account for over 30% by 2000. OPEC and the oil-importing developing countries are expected to increase their demand between now and 1990 by roughly the same amount. Thus variations in the growth of demand in the oil-importing LDCs can have a strong effect on world oil prices.

Consequently, reductions in that growth that don't harm economic development are in the U.S. interest. For example, a reduction of 1 million barrels of oil per day could reduce the price by up to $2.40 a barrel, and result in benefits to U.S. consumers of some $14 billion a year.

There are other slants to the interdependence theme. For example, although difficult to quantify, an improvement in the oil production-demand balance in oil-importing LDCs would reduce the impact of a supply disruption on the U.S. economy. This could come about for two reasons: increased supply from non-OPEC LDCs could reduce the market share of OPEC producers and lessen

the impact of their loss. Secondly, if there were a worldwide disruption in oil supply it would be incumbent on the United States to share available supplies. Reduced LDC import needs would be beneficial under these circumstances.

There are also the questions of social and political stability. In several countries over the past several years—Egypt, Peru and Jamaica, for example—attempts to increase fuel prices toward world price levels have led to serious social unrest. Diversion of funds earmarked for investment to pay for imported oil, which has consequently slowed growth and limited employment, can also lead to social and political problems. These can extend to regions, and whether or not they are reinforced by outside political forces, they can have serious security implications for the United States.

There is a financial slant to this as well. There were widespread concerns after the 1973–74 rises that the international financial system could not handle the unprecedented shifts in capital flows. For various reasons those fears were exaggerated. However, the level of debt now being amassed by the oil-importing developing countries—estimated at about $300 billion—poses new threats to the stability or at least to the health of the international banking systems. Obviously U.S. private banking interests as well as the U.S. national interest in a stable international financial system are involved. U.S. commercial interests also are affected by Third World energy problems in two basic ways. First, reductions in economic growth rates due to higher oil prices reduce the growth of demand for U.S. exports. Second, the energy strategies that must be pursued by LDCs to reduce oil import dependence can provide new export markets for U.S. manufacturers.

And global environmental concerns tie the interests of this country closely to those of the developing countries. For example, increased energy consumption in the LDCs will be predominantly through increased combustion of fossil fuels. This will increase the emission rates and atmospheric concentrations of carbon dioxide, with eventual risk of worldwide climate changes. Deforestation due to pressure on wood supplies has implications for productivity at the continental scale.

Energy-economic interdependence between the United States and the developing world is a difficult area in which to develop current coherent policy. The difficulty arises because of multiple national objectives that are joined; the number of countries and regional interests; the rapidity of change in basic factors of importance; and the very large uncertainties that characterize the future. Yet it must be recognized that because of the uncertainties of the world energy situation, there must be considerable flexibility and contingency planning built into formulation of international energy policy.

Major features of the current world and U.S. economic situation have been determined by energy and the Third World. There is every reason to believe that that situation will continue into the foreseeable future. ☐

NATIONAL ENERGY PLANNING: CORNERSTONE

Custom-tailored planning programs will address each country's special needs.

by Pamela Baldwin

In many respects, the tiny West African country of Togo typifies the challenges facing developing countries striving to ensure that adequate energy supplies will be available to fuel their ambitious economic development plans. Not blessed with fossil fuel resources, Togo imports over 90% of its commercial energy supplies—crude oil from Nigeria and electricity from a hydroelectric dam in neighboring Ghana. This imported energy feeds modern industrial, transport and tourist facilities built in Togo during the mid-1970s, when a dramatic but short-lived increase in world phosphate prices convinced Togolese leaders that exports of phosphate could finance a dramatic leap into a late 20th century economy centered on such new energy-intensive facilities as four large tourist hotels, an oil refinery, a cement plant and a steel foundry.

For nine out of 10 Togolese, on the other hand, everyday life continues to follow traditional paths. Subsistençe agriculture, too primitive even to employ draft animals in most cases, brings meager yields. In mud-brick, thatched-roof rural homes, firewood, charcoal and small quantities of kerosene are typical sources of energy for cooking and lighting. As rapid population growth and urbanization create new urban markets for these traditional fuels, prices rise to unaffordable levels and rural dwellers find scavenging for free wood increasingly difficult due to spreading deforestation.

For the Togolese, then, one challenge of energy planning is to find new approaches to integrated agriculture and forestry development so that the government can meet the energy needs particularly of the rural areas while pursuing the goal of food self-sufficiency. At the same time, in the absence of any oil or gas prospects, the Togolese are looking for ways to make their fixed capital stock of industry, transport and tourism facilities more productive and thus lessen the strain on the external debt burden and balance-of-payments deficit.

Morocco, which shares with Togo an abundance of phosphates, differs by also enjoying at least the prospect of future energy self-sufficiency. There, oil shale reserves—an estimated 200 billion tons—rank eighth in the world. Some coal and uranium also exist, and recent indications of natural gas further expand the possibilities for self-reliance.

Yet Morocco today remains dependent on imported petroleum for over 80% of total commercial energy. In 1980, Morocco paid $1.3 billion for imported oil, equal to 30% of total imports and over half of the country's total export earnings. As a result, commercial borrowing, government spending and inflation all are rising. The economic picture is further strained by a severe drought and a guerilla war in the western Sahara.

The challenge for Morocco will be to plan for, and invest in, developing known resources while continuing to search for new energy sources, particularly conventional oil and gas. Hydropower and renewables are also expected to contribute to future supplies, but substantial economic and institutional barriers are slowing progress in that area. Oil shale, Morocco's most obvious target, is a highly risky prospect. Since even U.S. shale resources are little-developed, Morocco finds itself in the unenviable position of pioneer—some say guinea pig. Yet Morocco may not be able to afford delaying major steps to develop oil shale.

Flexible Approach Tailored to National Needs

Togo and Morocco are only two countries among several in which AID has offered technical assistance to government energy planners. Others include Tunisia, Sudan, Guyana, Indonesia, Malawi, Liberia, the Dominican Republic and Jamaica. In each country, AID-funded economists, engineers and planners work with host county officials to map out strategies. After exploring the possibility of a standard approach for all AID-assisted countries, the office of energy in AID's bureau for science technology has decided instead to set up a program of "custom-made" country-level energy planning activities. These are to follow certain basic guidelines, so that the specific capabilities of each country can be brought to bear on the nation's problems and needs.

A television aerial over a squatter's hut is a symbol of achievement.

In all cases, however, specific activities are organized around three basic principles. First, AID's program recognizes that building an energy planning capability in LDC government energy institutions is a long-term task. Toward this end, most energy planning assistance activities funded by AID include provision of a long-term resident adviser, whose services are supplemented by experts on specific energy topics. Those experts are in residence on an intermittent basis. Second, the program is based firmly on the view that host government personnel should play the lead role at every step in the planning process. The resident energy advisers help this approach along. Finally, the AID Energy Planning Assistance Program is action-oriented. Country-level activities are directed to results—energy development projects and associated capital investments—not to paper plans. Energy planning can be a lever for marshalling financial resources.

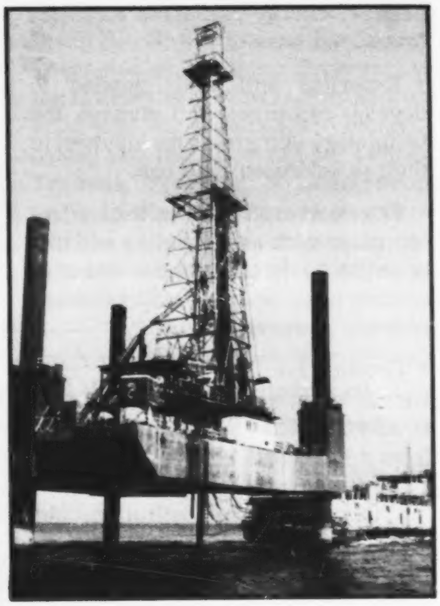
Ingredients of National Energy Development Programs

Practical experience indicates that AID can help Third World governments develop certain ingredients universally required for a successful program of national energy development. These ingredients, outlined in brief, include:

- *Basic information* on current patterns of energy use as it relates to economic activities. With this information, projections of future demand can be made.

- *Access to resources* that can be harnessed to accommodate the country's economic activities.

- *Access to technologies* to convert



Old and new sources of power vie for acceptance in developing countries around the world.

primary energy resources to useful forms.

- *Expertise and skills* needed to develop resources and manage the technology and programs involved in their development and use.

- *Economic and institutional infrastructure* such as marketing and distribution systems and governmental entities to set policies and implement delivery of energy.

- *Capital* for investment in new energy sources and in energy-using equipment. That capital must come from a variety of sources, including domestic governmental budgets, international financial institutions and private-sector investors.

Developing all these critical elements in a timely way is difficult for any developing country, and coordinating them for maximum benefit is an almost limitless challenge. For outside experts, advising other governments on energy planning is more a matter of shared learning, since energy planning in the United States and other developed nations is also in a fledgling stage. In fact, in some ways, LDC experience with central economic planning gives developing nations an edge on energy planning over Western market economies without such traditions.

Integration of Energy Issues into National Economic Development Planning

The most essential—and one of the most difficult—tasks facing LDC energy officials is integrating energy into overall economic development planning. AID-sponsored energy planning assistance teams have found that in many countries energy planners work in isolation from other ministries. For example, energy planners often lack close working relationships with agricultural, transport or industrial planners. The result, often, is an energy-sector plan that outlines future fuel require-

Workers are silhouetted with the framework of a thermal power station.

ments based almost wholly on historical trends and considers energy supply only in terms of existing and planned facilities. While such a plan is a useful starting point, it would be much more useful to derive demand projections directly from investment plans for industry, agriculture, transportation, housing and commerce and to attempt to evaluate proposed supply projects in terms of their appropriateness to needs in each of those areas.

Information: The First Step

The first problem to confront energy planners and their AID-sponsored advisers in virtually every country is the lack of basic data on energy needs, uses and resources, particularly for the demand side of the current energy balance. While many governments have a fair idea of the amount of commercially purchased energy used on a national scale, similar information does not exist for traditional non-market fuels such as firewood, charcoal and agricultural wastes. Furthermore, little or no data are available about how fuels are used, especially in households.

Therefore, collecting that kind of information is an important part of energy planning assistance, though not an end in itself. Few countries can afford the luxury of waiting for the collection of vast amounts of data before undertaking hard decisions on immediately pressing issues. Data collection must therefore be aimed at information requirements for answering key policy questions.

Resources, Technologies and Skills

While basic information is a prerequisite, access to resources and technologies, and the development of needed skills and expertise, are perhaps at the heart of national energy development. Energy planners can help LDC governments set up programs to assess their own conventional and renewable resources, and provide guidance about existing and emerging technologies. As with Moroccan oil shale, resources in many countries can be exploited only through new experimental technologies whose effectiveness and impacts are not fully known. This means that risks and uncertainties must be built into national energy plans. Training to develop expertise in both established and innovative fields must be built into the planning as part of the institution-building component. AID is supplementing activities in each country by providing training through separate but related AID programs such as the Energy Management Training Program, a semi-annual, nine-week course at the State University of New York at Stony Brook; the Alternative Energy Technologies Training Program at the University of Florida, focusing on solar and other renewable technologies; and the Conventional Energy Training Program, a scholarship program that employs a wide range of U.S. universities, industries, national laboratories and other training facilities.

Water is an important source of electrical power.

Capital: Planning as Leverage for Investment

Although energy touches all aspects of national economies, social structures and cultures, it is only one of many factors that influence economic, political and social policies. In allocating scarce investment capital and foreign aid funds, LDC governments must evaluate energy needs in conjunction—and sometimes in competition—with other needs such as health, education, agriculture, industrialization, housing, and urban infrastructure. Basic requirements for internal political stability and national security must also be taken into account. The result often is a series of hard choices among competing and equally justifiable needs.

The AID Energy Planning Assistance Program is trying to address developing countries' capital needs by using sound planning for leverage with financial institutions and investors. AID's own resources obviously preclude major capital transfers, but AID's role can be important in helping host countries attract venture capital for new energy development. Morocco, again, is a case in point. Recent negotiations between the government of Morocco and the World Bank for a major oil shale loan reached a critical point in mid-1980 when the bank asked the Moroccan Ministry of Energy and Mines to provide substantial information on how the proposed oil shale retorting pilot plant fit into the country's overall energy plans. The AID-funded energy adviser and severel other experts working on the AID energy planning project worked with the ministry to articulate for the bank the larger context into which the oil shale plant would fit.

In Sudan, the resident and visiting advisers were asked to help government planners assess a number of short- and long-term options for improving the reliability and expanding the capacity of the electric power system. As a result, the Sudanese government is negotiating with AID to provide between $10 and $20 million in Economic Support Funds for capital equipment that will make a notoriously unreliable power system more reliable in the near future.

In a 1980 report, the World Bank noted that a lack of well-developed project proposals seriously inhibited funding of major capital projects for energy development in LDCs. AID-provided energy advisers can help to alleviate this problem.

Energy Pricing: A Critical Issue

Increasingly, international lenders are making rational energy pricing a condition of new loans or guarantees, and AID's energy planning advisers are finding price issues to be critical in virtually every country. In many developing countries, the prices of fuels used by low-income urban households—most notably kerosene—are heavily subsidized in order to allow poor people to obtain fuels they could not otherwise afford and in order to stimulate industrial development, industrial fuel oil and electricity used in factories are sometimes subsidized as well. Such subsidies may be justified on social and economic development grounds when they are instituted, but as time passes LDC governments are finding that they become counter-productive. Distorted price signals encourage inefficient consumption of industrial fuels and, more importantly, remove incentives for substitution of indigenous energy sources, including renewables. Yet governments are faced with difficult and sometimes explosive situations when they try to remove energy subsidies; urban riots have resulted from announcements of kerosene price increases, and some evidence exists that poor households sometimes do without hot food and light because they cannot afford the new, higher prices. In the industrial sector, factories that were economically viable with subsidized fuel prices become impossible to sustain when prices are suddenly increased.

AID's Energy Planning Assistance Program addresses pricing issues by seeking to analyze with LDC governments the impact that artificially low energy prices have on prospects for developing new energy sources and improving efficiency of consumption. In Morocco, an investment model compares the costs, risks, impacts and benefits of various energy investments and projects under various alternative price projections. While AID lacks the level of financial clcut of the World Bank and the International Monetary Fund, energy planning teams in AID-assisted countries do not discount the value of persuasion through information. Pricing issues will continue to be a major focus of AID's planning assistance activities in every country.

Energy planning should be a cornerstone for economic development.

Energy Planning: The Next Steps

After three years of experience and learning with energy planning, AID's energy office will develop a new project this year to expand and further develop its activities. The umbrella project under which planning assistance was provided in fiscal years 1979–81 was to reflect early thinking in the field, when developing countries were just beginning to cope with the shock of sharply rising oil prices. At that time, the emphasis was on energy assessment and a standard approach. But field experience has resulted in a reorientation toward action-oriented, tailor-made country programs that emphasize institution-building and technical assistance. In fiscal 1982, AID missions in Africa, Asia, the Near East and Latin America and the Caribbean will have an opportunity to work with host governments on subprojects for a second-generation umbrella project. It appears now from the interest already expressed that the demand for these services will outstrip the available financial resources. Therefore, priority wil be given to those countries where energy planning is most likely to be a cornerstone on which a larger structure of national energy resources development, demand management, technology development and overall economic development can be built. ☐

Pamela Baldwin is a program analyst in AID's office of energy.

NEW AND ALTERNATIVE SOURCES SHAPE POLICY

AID seeks to ease constraints and pave the way for transition from oil dependency.

The U.S. government has consistently supported the expansion of energy programs for developing countries. With that emphatic declaration AID sets its energy assistance policy.

Few events of the 1970s had a more profound global effect than the series of oil price increases by members of the Organization of Petroleum Exporting Countries (OPEC). The economic shocks and political and social reverberations continue to be felt though-out the world. The consequences of developed and developing countries' dependence on oil affected not only supply but financial markets, international security arrangements, foreign trade relationships and economic growth.

Third World countries adjusted to initial price increases in the early 1970s. But the 1979 and 1980 hikes were different—the boosts overpowered many countries' economic development plans.

At the same time, the other energy "crisis" promises to be equally disastrous. There has been a sharp decline in the availability of firewood, the traditional fuel of rural areas, where 75% of people in the developing countries live. The use of wood for fuel encourages deforestation. As forests dwindle people must walk further to gather food or turn to buying it. If they can't find wood or afford to buy it, they turn to collecting agricultural wastes, depriving the soil of nutrients. Thus, deforestation directly affects not only energy, but food production.

AID considers the energy problem critical and has two basic policy goals: to ease the immediate energy constraints to development in third world countries and to help those countries make the difficult transition to energy sources that will sustain their economies.

In achieving these goals, declares the Agency's energy policy paper, AID programs must be sensitive to the range of energy activities that affect development prospects. Faster development of the Third World energy potential is impeded by lack of such factors as basic resource knowledge, adequately trained personnel, appropriate technology, comprehensive energy planning and management and money.

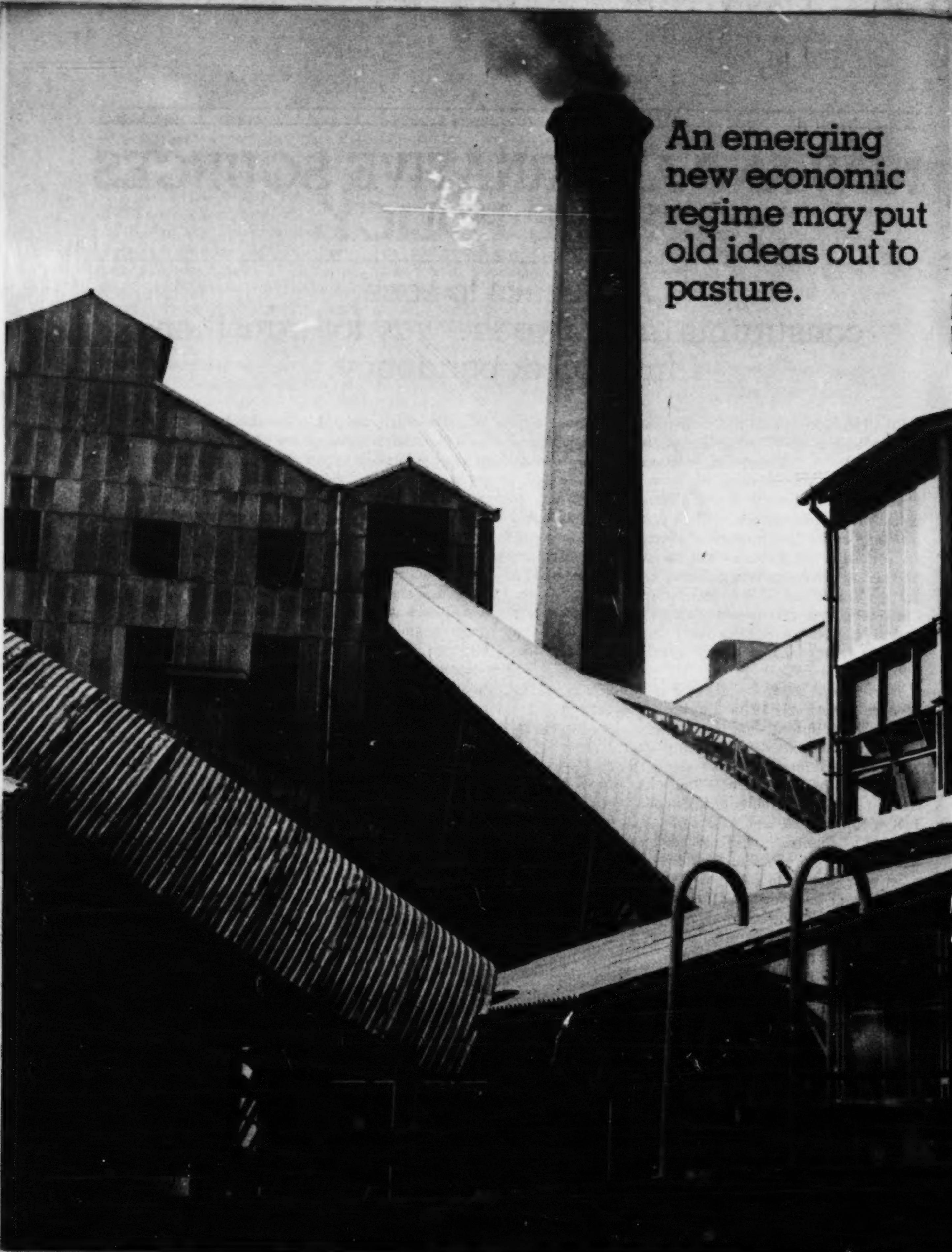
Overcoming these obstacles calls for the combined efforts of developed and developing countries' government and the private sector. AID maintains that its energy involvement and assistance should complement resources from other sources.

An additional consideration is that AID's energy program should recognize resource and staffing constraints. Program concentration, says energy adviser Stephen Klein, "should be in those areas where AID's flexibility and capacity give the Agency a comparative advantage vis-a-vis multilateral development banks and other donor programs."

With these thoughts in mind, AID's energy program supports a wide range of activities, mainly technical assistance in the form of analysis and planning, training and institutional development, tailored to the specific needs of countries. AID promotes least-costly energy alternativs and emphasizes coordination with other U.S. agencies, bilateral donors, the World Bank and other multilateral assistance organizations and the private sector. Finally, AID expects that its programs will be giving major attention to renewable energy sources, especially fuelwood.

Some of the "new" energy technologies being tested, demonstrated and evaluated in the United States have applicatons in the Third World.

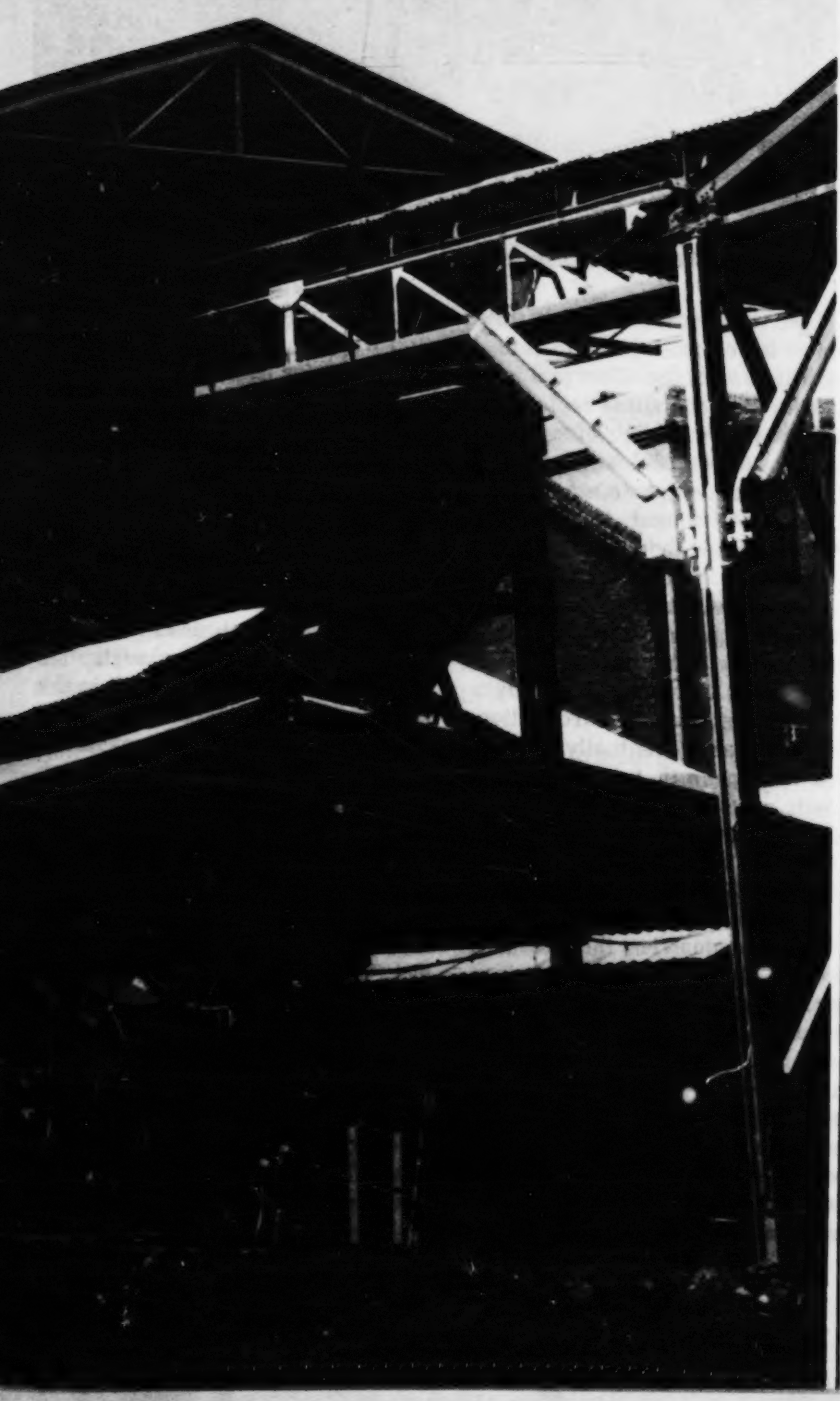
In most development assistance programs, AID does not provide capital assistance except for fuelwood, small hydropower and, to a limited extent, other renewable energy activities. Instead, the Agency expects that the private sector and the multilateral banks will make the primary capital financing commitment to energy activities. ☐



An emerging new economic regime may put old ideas out to pasture.

RETHINKING FOSSIL FUELS

by Charles Bliss



The continuing need to import expensive oil—and the balance-of-trade problems that it has caused—may be establishing a new economic regime where past generalizations about energy are obsolete.

So it may be time to rethink the whole idea of developing local alternatives to imported oil. It seems clear that old views and opinions now have to be shaken out and retailored in light of the new economic picture.

Definition of terms is the first step in such a reexamination.

Fossil fuel sources are coal (including peat) oil shale, petroleum, natural gas, tar sands and heavy oil. When we speak of conventional energy we mean power sources that provide the bulk of modern industrialized society's needs—gasoline, oil, kerosene, diesel fuel, natural gas and liquified petroleum gas, and coal.

Development of fossil energy resources and the production of conventional energy forms are a matter of judicious selection and application of technology. New and reliable technology has been developed in recent years and is available now. Moreover, technology used in the past may still be useful.

For example, remote sensing.

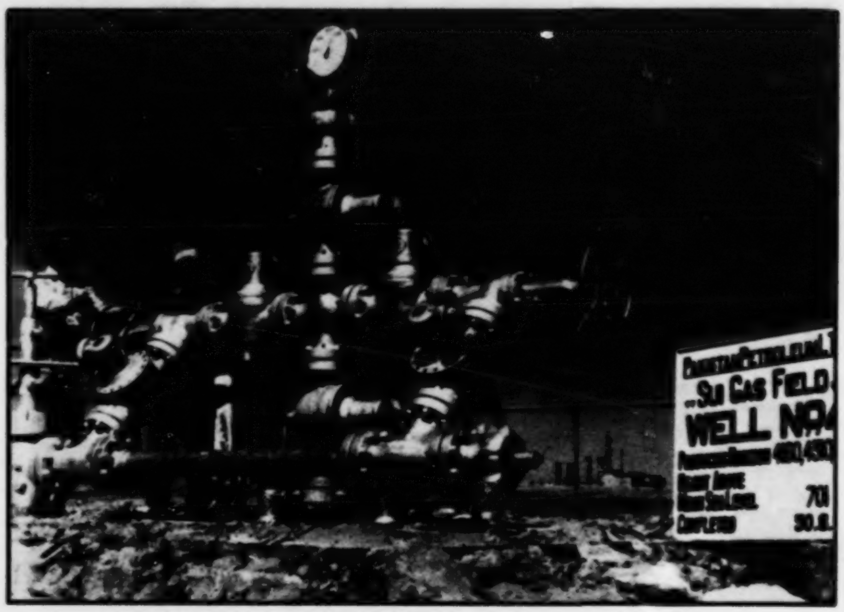
As the term indicates, needed information and data are collected through detection and measurement from a remote location, and processed. The results are observations or conclusions about resourceful potential. The data processing can produce maps showing surface and topographic features, from which inferences can be drawn about whether geological structures below the surface lend themselves to the accumulation of hydrocarbons. The advantage of remote sensing is its scope: Enormous territory can be explored quickly and evaluated at low cost. The results can help avoid waste.

In its present form, remote sensing involves the photography from the Landsat satellite of light reflections averaged from one-acre (less than half a hectare) areas through filters to isolate selected bands of green, red, and near infrared wavelengths. The data are reconstituted on the ground through computer processing of the signals received from Landsat as maps on which different areas can be colored to bring out specific features that may be relevant to water presence, forestry, geology, or agriculture.

One of the first results of the 1973-74 rise in the world price of petroleum was a serious renewal of interest in coal-oil mixture (COM) fuels. Mixing coal and oil was first proposed in 1879, when industry was beginning to appreciate the convenience of a liquid fuel, but wanted to avoid what was then a high price for oil, compared to coal. The suspension of finely pulverized coal in fuel oil would serve the dual purpose of preserving the convenience of a liquid fuel and reducing its cost. Interest renewed periodically whenever world oil prices rose or supplies appeared to be scarce.

The technology of the combustion of mixtures of coal and oil has recently been successfully demonstrated in a single steam generator serving an electricity generating station. The test was performed by the Florida Power and Light Co. in its Sanford station and was completed in April 1981, when the company's temporary emissions permit expired.

The test showed that it was feasible to burn coal-oil mixes with coal contents as high as 42% by weight, where about one-third of the energy liberated in the furnace from combustion comes from the coal. A higher coal content wasn't possible because the equipment wasn't designed to handle it. Other tests have reported successful combustion up to a 50% coal content.



Cost considerations in the United States have focused attention on a modification of the COM fuel in which its oil content is replaced with water. A number of companies are working on coal-water mixtures (CWM) that can contain as much as 75% coal by weight. Although the water reduces thermal efficiency, complete independence from petroleum is achieved. There has been no large-scale demonstration of CWM fuels to date, but intense research is being done. In many countries, successful introduction of a COM and, eventually, a CWM fuel may mean that developing costly ports and inland transportation systems may not be necessary.

Household Fuel from Coal

In many countries, the most common domestic fuel for cooking is kerosene with some charcoal or wood in cities; and mainly wood and charcoal, with some kerosene in the countryside. Kerosene is attractive because it's smokeless and convenient. However, the cost of kerosene is likely to be highly subsidized. So, a smokeless coal briquet could be an alternative; it's been manufactured in uniform size and with consistent burning character for many years.

The coal for these briquets may be local or it may be imported. It is heated out of contact with air (i.e., pyrolyzed) to produce a solid char using fuel gases and tars. These are by-products of the pyrolysis. The gas and tar are derived from the volatile material content of the coal, and the pyrolysis can be controlled so that there is enough residual volatile material left in the char to allow it to be easily ignited. The char is then compressed into small pillow-shaped briquets of convenient size. A binder is needed, cassava starch, for example.

Depending on the character of the coal, surplus energy may be available from the pyrolysis process. This can be diverted to generate electricity. For every ton of coal processed, about .4 barrels of the residual fuel oil may be used as boiler fuel for electricity generation. Surplus tar not needed in the briquetting process may be another separate source of boiler fuels. Therefore, electrical plants should be located near the source of coal.

Petroleum Refinery Product-Mix Adjustment

Most countries have at least one national oil refinery. These refineries usually have a relatively small capacity, no more than 100,000 barrels per day, and sometimes as little as 10–20,000. At this scale, it becomes too costly to install processing units capable of adjusting the mix of the product to match the market demand. The demand is largely for the lower boiling point distillates—gasoline, kerosenes, and diesel oils. But, depending on the character of crude oil, the refining may produce excessive residual high boiling-point fuel oils, which then must be exported.

In effect, the refinery management finds itself importing crude oil at world prices in the quantity needed to meet national demand for distillates. At the same time, it must export excess residual fuel oil. And as more people turn to coal, the price of residual oil will go down.

Technical options are available. The principle is either to add hydrogen chemically during refining (hydrocracking or hydrogenation) or to remove carbon chemically (thermal cracking and delayed coking). For the latter, a market would be needed for the petroleum coke produced—the cement-making industry, for example, if coke were used in place of residual fuel oil. But there would be a hefty capital investment required, and operating costs might be high. These would have to be offset by savings resulting from a reduction in the petroleum imported.

Underground Coal Gasification

Underground coal gasification is a technology whose time may be near. In contrast to the illustrations so far, this technology should not be considered as developed and ready for use, but rather as one with potential. It is particularly applicable to coal deposits too deep to be moved effectively or at reasonable cost. In the coal gasification process, the chemical energy in the coal, rather than the coal itself, is extracted in the form of a combustible gas of nominal calorific value.

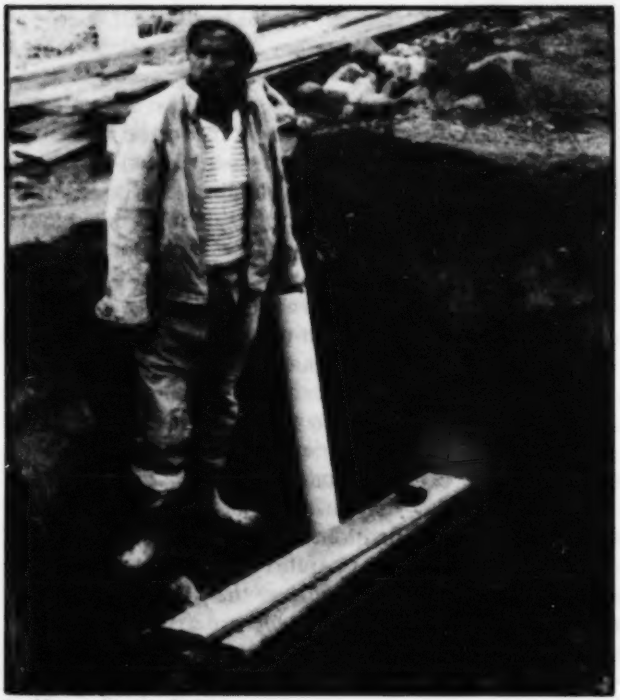
The principle is to produce in the otherwise undisturbed coal deposits, either a low-calorific fuel gas (where air is the gasifying medium) or a medium-calorific gas (when oxygen/steam is the gasifying medium). This medium gas, which is almost nitrogen free, can also serve as a synthetic gas from which a number of "petrochemical" products can be made, including ammonia and methanol. In general the technique involves drilling a hole through which the gasifying medium is sent to the coal seam, and another hole, through which the product gases come to the surface. The coal between the holes may need to be fractured to increase its permeability to gas flow. For steeply-dipping coal beds, and for very thick beds of perhaps 200 feet where the gasification can proceed upward along a near vertical axis, there have been encouraging results in producing consistent levels of fuel gas above 300 Btu/cu. ft.

The best use of the process appears to be in generating electricity at the coal fields. This results from the combustion of the low-calorific fuel gas in a combined-cycle configuration. One advantage is that the total capital cost is largely distributed over the life of the project (as new holes are drilled and surface installation shifted).

There are alternatives to importing petroleum, and they may well lie within the countries that need them. A rather safe generalization is that it is technically feasible to produce any conventional energy from any fossil resource; the problem that arises is cost.

The choice between continuing to import, at steadily increasing cost, and finding alternatives at possibly high cost, may be a difficult one for many countries burdened with economic woes. But it is important that leaders and decision makers recognize that there is a choice. ☐

Charles Bliss is an energy adviser in AID's Office of Energy.


Building a biogas digester.

CHANGES THAT LAST

Big energy news is being made by the tinkerers and local entrepreneurs.

by David Jarmul

Large development programs and exotic new technologies make for big energy news in developing countries. But often it is local entrepreneurs and tinkerers who produce the energy changes that really take hold.

Hundreds of these inventors, community leaders and others have been supported during the past two years by a unique renewable energy program run by Volunteers in Technical Assistance [VITA], a nonprofit organization based in Maryland. The AID-supported program offers technical information, consultancies, publications and small grants to energy innovators in developing countries, people who often are hard to reach through large government-to-government efforts.

The VITA program has helped local groups build water-pumping sail windmills in Honduras, Nicaragua, Mali, India, Thailand and Kiribati. It has promoted solar water heaters in Guatemala, solar greenhouses in Bolivia and hydro-powered grain mills in Nepal. Its publications have provided how-to information on biogas plants, small-scale ethanol production, producer gas and other energy ideas. The VITA program provides these resources quickly, with a minimum of red tape.

Case in point: Africa's drought-plagued Sahel region, where VITA is promoting wood-conserving cookstoves. Following requests from the field, VITA experts traveled to villages in Senegal and Upper Volta to help design and test improved models. VITA's Dr. Tim Wood joined the regional CILSS (Permanent Interstate Committee for Drought Control in Sahel) organization to

A local Thai worker hand drills for the rotor shaft of a traditional water-pumping windmill.

Women in Upper Volta take part in a demonstration of an improved stove.

coordinate activities relating to woodstoves and ran workshops with upper Volta sociologist Jacqueline Ki-Zerbo for masons and extension workers in five Sahelian countries. The two also started *Flamme*, a regional newsletter on stove developments.

VITA coordinated the work in the Sahel with its efforts elsewhere: cookstove filmstrips in Guatemala, new sheet-metal stove designs in Zimbabwe, community stove projects in Sri Lanka, ~~etc~~. It also collaborated with the Intermediate Technology Development Group (ITDG) of London to publish *Wood Conserving Cook Stoves: A Design Guide* in English, French, Spanish and Arabic.

AID and VITA started the program in 1979. The goal was to provide technical assistance to local groups, develop an informal world network of renewable energy practitioners and support promising efforts with small financial grants. Founded in 1959 by a group of engineers and scientists, VITA was known in development circles for its pioneering work with small-scale local technologies.

VITA now has a worldwide roster of 3,700 experts—800 in the energy field—who volunteer their time and expertise to help people in developing countries. These "VITA volunteers" and the VITA staff answer more than 2,500 technical inquiries a year on energy, agriculture, construction and other subjects. VITA also maintains a leading library on small-scale technology and publishes numerous how-to manuals for developing countries.

The new program enabled VITA to answer 1,140 technical inquiries on energy during the first 18 program months. Of these inquiries, 274 dealt with solar power, 211 with wind power, 159 with woodfuel and charcoal production, 147 with biogas and biomass, 127 with hydropower and therest with other energy subjects—a good indication of what information people in developing countries are really looking for. The program also provided special help and small grants to specific projects. Among them:

- The Instituto Tecnologico de Costa Rica built a low-cost device that makes charcoal from wood waste.
- The CEMAT group in Guatemala ran regional workshops on biogas digesters and improved latrines.
- Several South Pacific islands began using the PEACESAT satellite network to discuss wood gasification, improved stoves, solar water heaters and other energy ideas.
- A Thai entrepreneur developed an extrusion machine that makes inexpensive rice husk fuel logs. Other job-creating projects dealt with wind power in Honduras, woodstove sales in Upper Volta, sugar production in Panama and wind-assisted copra harvesting on Christmas Island in Kiribati.

In addition, the program has sponsored efforts to conserve fossil fuels by improving the efficiency of kerosene stoves in Egypt, and reusing waste oil in Tanzania, among others.

VITA worked directly with AID missions on several projects, although the program is designed especially for those outside the traditional funding mainstream. VITA has also used the program to spur participation from IBM Europe, General Electric, Sperry New-Holland, the United Nations, the World Bank, several governments and various organizations.

"One lesson we've learned is that people in one part of the world really need to know what's going on elsewhere," says VITA director Henry Norman. "There's no sense reinventing the wheel or, in our case, the solar cooker. That's why we consider our publications so important and have helped set up energy information networks among groups in the Caribbean and in Thailand. Of course, there also are situations when the best thing to do is send someone out to the field to provide the necessary know-how."

> "Developing countries must embark on practical measures to conserve energy."

Such was the case in Mali, where VITA volunteer energy expert Alex Roquetta spent three months helping expand the solar energy lab in Bamako under an AID/SERI project. Roquetta was followed by VITA staff expert Alan Wyatt, who showed how to adapt windmill designs he had helped build earlier in the year in Honduras and the Caribbean. Other VITA volunteers will soon travel to Bamako to assist with shop management and biogas digesters. Meanwhile, a Malian documentalist from the center has come to Maryland to learn how to organize a renewable energy library.

VITA Asia representative Marcus Sherman, stationed in Bangkok, is another example of how the program combines practical energy information from different parts of the world. Sherman, who was in the windmill business before joining VITA, recently helped build a sail windpump in Andhra Pradesh, India, using a Thai design. He adapted windmill designs from Massachusetts while assisting another Indian group, and helped organize a VITA panel that designed a torque-matching mechanism for a windmill in Mexico.

Similarly, Sherman's associate, engineer Banyat Srisom, has been using findings from stove research in Africa elsewhere to teach new stove designs to Cambodian refugees. Srisom and VITA volunteer Bill Stewart—who did similar work with the Sarvodaya Institute in Sri Lanka—are both in close touch with stove designers in Indonesia, Nepal and other Asian countries. In short, an impressive renewable energy network is developing that not only separates good ideas from clunkers, but reminds people throughout the developing world that they are not alone in searching for practical energy alternatives.

VITA's many energy experts around the world hope that the best technologies will be sorted out quickly during the coming years.

"Developing countries must embark during the next 10 years on practical measures to conserve energy," says VITA volunteer Ali Sheriff of Tanzania, who has done innovative work on waste oil recovery. "[We must] establish centers to develop appropriate renewable energy technologies that use local skills and resources."

VITA volunteer Li Nian-guo of the Institute of Energy Conversion in Guangzhou, China, agrees: "Fossil fuel is running out and energy consumption is increasing, even for the developing world. The most promising approach is the utilization of new and renewable energy sources. . . . This is a common cause for all mankind." □

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David Jarmul is editor of "Vita News."

by Joseph R. Egan

WHAT ABOUT NUCLEAR POWER?

A recent breakthrough in manufacturing small reactors may change the future for many developing countries.

VIEWPOINT

The following article is offered for discussion and does not reflect AID policy.

Brace yourselves for another international nuclear power debate, one so new that nary a word of it was mentioned in the recent two-year International Nuclear Fuel Cycle Evaluation (INFCE). The debate will center on the applicability and appropriateness of small nuclear power plants for less developed countries (LDCs). Unlike previous discussions about the viability of nuclear power in 10 to 20 of these countries, the new debate will urgently and directly encompass up to 75 LDCs.

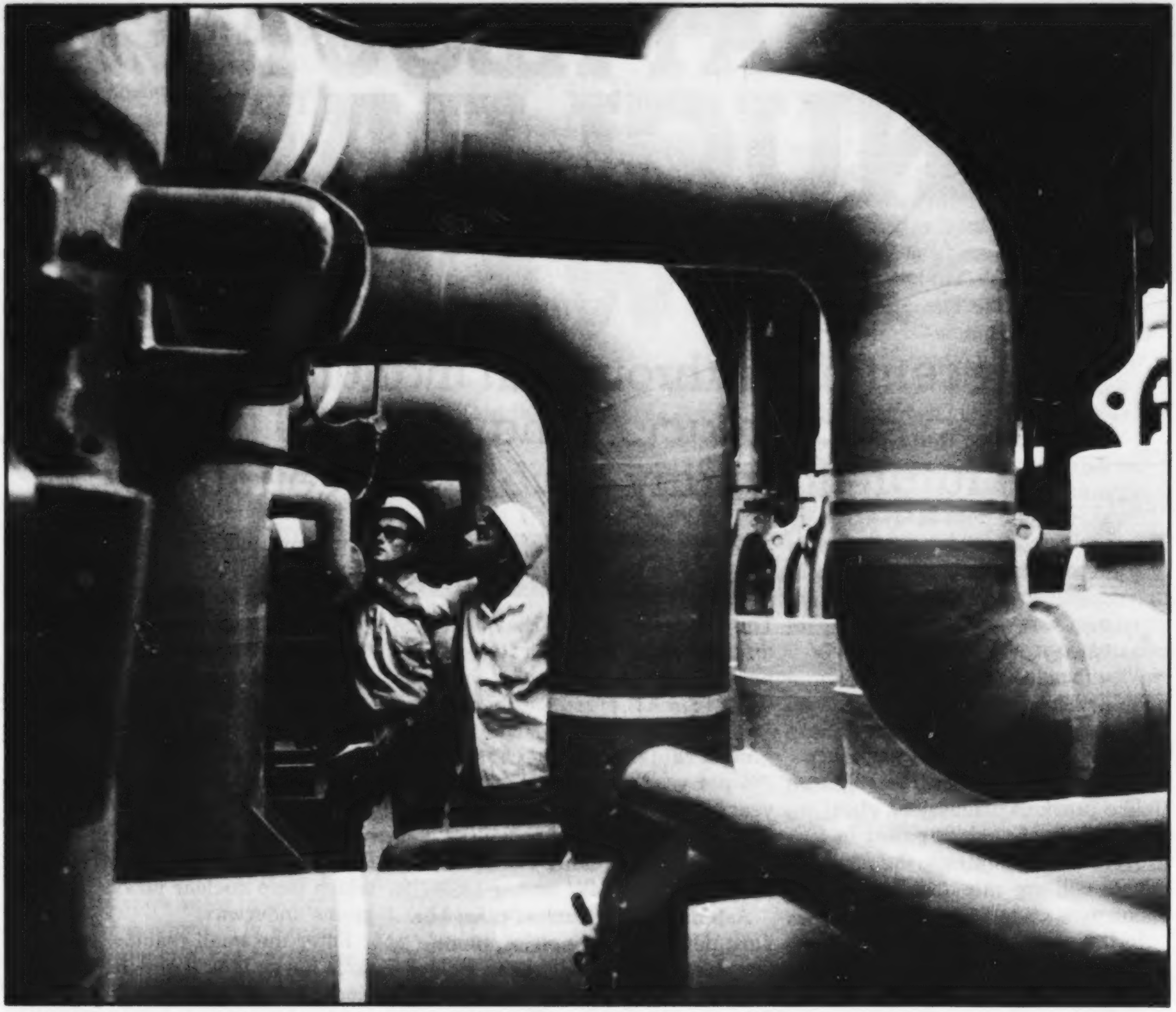
In the past, all but a handful of developing nations were technically disqualified from the nuclear power market because their electrical systems were simply too small to handle the giant reactors that manufacturers had standardized at a size of around 1,000 megawatts (MW). In engineering parlance, a rule of thumb dictates that no single generating unit should supply more than 10% to 15% of the total installed generating capacity of an electrical system. Exceeding this can result in blackouts and equipment damage.

For example, a country like Jamaica, whose total installed capacity is 750 MW, could now install a nuclear unit no larger than 75 to 115 MW. Even assuming a growth rate in installed capacity of 7% per year, it would take 25 years before Jamaica could reliably install what was until recently the smallest commercially available reactor—a 600 MW unit.

Aspirations for nuclear power in most developing countries, therefore, have traditionally been labeled wishful thinking. Small reactors, unable to compete with the economies of scale of larger units, were scrapped from the drawing boards even though, as the World Bank noted in 1975, a 200 MW reactor would expand the market for nuclear power in the Third World by up to 100 units. Financial and staffing commitments to non-proliferation programs reflect the assumption of only modest LDC nuclear power growth in the next century. The last major U.S. study of LDC nuclear prospects, conducted for the Energy Research and Development Administration in 1975, concluded that only 13 LDCs would be capable of accommodating nuclear power by 1999, and only 20 by the year 2000.

There are 16 poorer nations with nuclear plants in operation, under construction, or on order. These are Argentina, Brazil, Cuba, Egypt, India, Iran, Iraq, Libya, Mexico, Pakistan, the Philippines, Romania, South Korea, Taiwan, Turkey, and Yugoslavia. This list excludes ex-LDCs such as Spain, South Africa, Bulgaria, China, Czechoslovakia and Hungary, all of which have nuclear power programs underway.

Enter the small reactor. When Rolls Royce Ltd., a new British conglomerate, announced plans in 1978 to manufacture a prefabricated, barge-mounted reactor of 200 MW size, many policy-makers looked on with a smile. More wishful thinking, they said. Rolls Royce promised that its standardized reactor, churned out in large numbers like automobiles on the assembly line, would prove cost-competitive with the largest reactors now being offered by vendors. After a 4- to 5-year assembly period in England, the reactor would be floated across the ocean, up an estuary or tidal river, and permanently docked-down at a preselected operating site. The purchasing country would simply "turn

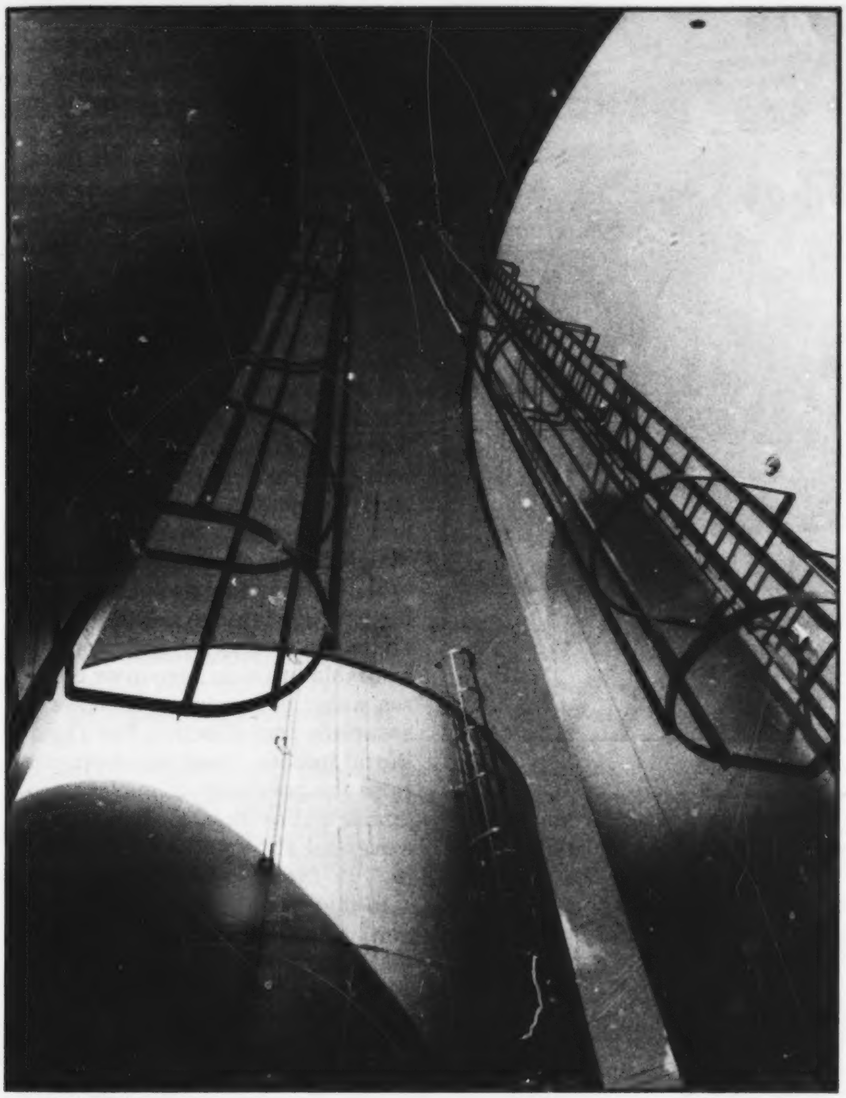


Inside the Tarapur Atomic Power Plant which supplies electricity for two major states in India.

the key" for an instant 200 MW capability.

Wishful thinking? Maybe. But the Soviets have already exported their intermediate size, standardized reactor—a 440 MW model—to 10 nations. And they purportedly have strong interests in the potential Third World market. West Germany's Interatom and France's Alsthom-Atlantique have long had their marketing strategists poised in readiness for an anticipated small reactor buying spree. And when West Germany's giant vendor, Kraftwerk Union, announced plans similar to those of Rolls Royce in early 1980, even the skeptics began to blink. Predictably, Japan soon followed suit. Development of 50 to 300 MW reactors was included in the latest budget appropriations of the Japanese Ministry of International Trade and Industry (MITI)—in anticipation of a large market in the Third World. Hitachi, a Japanese vendor, is already working on small reactor designs, having engaged in marketing discussions with Southeast Asian countries. Hitachi also has signed a technology transfer agreement with Bechtel, Inc., a U.S. firm, for technology intended for use in these reactors.

The list goes on. In early 1981, France's Commissariat á l'Energie Atomique (CEA), a government agency, announced plans to begin developing small reactors for export to developing countries. Technicatome, a subsidiary of CEA (90%) and Electricite de France (10%), has conducted marketing discussions for 125 and 300 MW reactors with Greece, Portugal, Ireland, Bangladesh, Morocco, Tunisia, Libya, Singapore, Burma,



A tank farm for raw water storage.

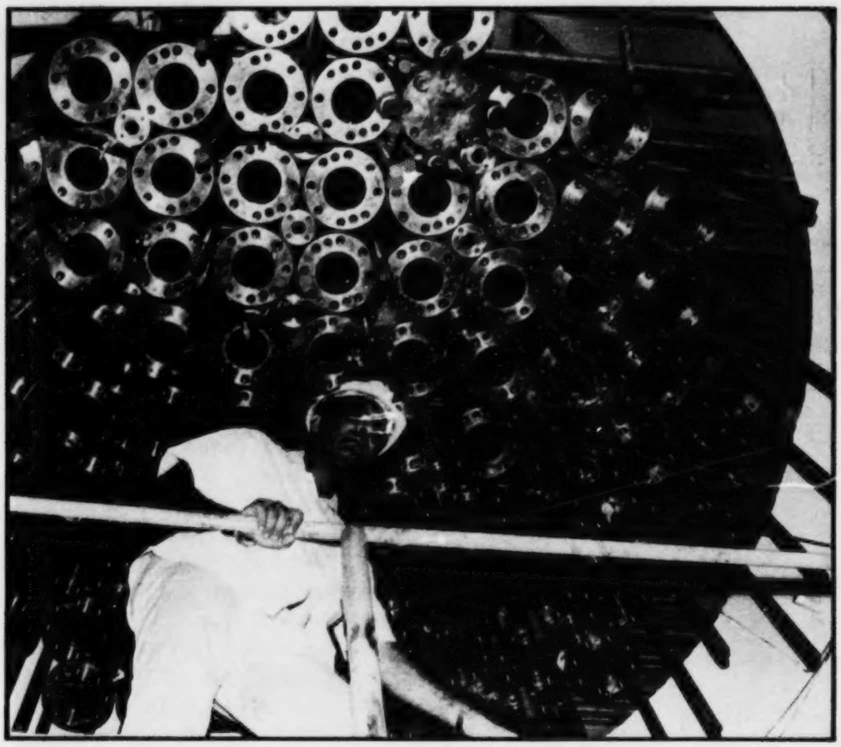
Indonesia, the Philippines and others. Advertised capital costs range from $2,000 to $3,000 per kilowatt, only slightly higher than costs now quoted for very large reactors. By the time this article goes to press, Bangladesh may already have purchased a 300 MW Technicatome reactor in a deal partly financed by Saudi Arabia.

In the United States, General Electric reportedly has a small reactor program of undisclosed scope. Other U.S. vendors, notably Westinghouse and Babcock & Wilcox, may also be engaged in low-key pursuits of potential markets by exploring development of small reactors. Because competition for such markets will be fierce, vendors are reluctant to disclose the details of their new plans.

How will small reactors change the current debate over nuclear energy in the LDCs? First, let us assume that 200 MW becomes the smallest reactor size that can be marketed cost-effectively, unmindful of the fact that current development plans include units down to 50 MW. Or that the Atomic Energy of Canada Ltd. has plans for marketing units as small as 2 MW for limited industrial applications. On the basis of the best available installed capacity figures and projected electricity demand growth rates for developing countries, 57 LDCs will have electrical systems large enough to install a 200 MW unit by 1990, and 72 by the year 2000. Discounting those LDCs which already are implementing nuclear programs, a 200 MW reactor would expand the year 2000 market potential for nuclear power by an additional 56 developing countries. These include Tanzania, Surinam, Ghana, Sri Lanka, Uruguay, Bolivia, Kenya, Papua New Guinea—nations for which nuclear power had been deemed a preposterous option until well into the next century.

Second, small reactors will qualitatively change the nature of nuclear technology transfers to LDCs, bringing unique advantages and/or unique difficulties to these nations. Previous nuclear plant exports have involved subcontracting back to local industries, on-site construction, gradual development of the interface between purchaser and supplier, and continuous interaction between the LDC and the supplier throughout the 8- to 12-year duration of construction. Transitions between initial and final stages of the projects were smooth, with some degree of LDC participation in many aspects of construction, initial operation and even design work. Still, conventional nuclear technology transfers to LDCs have not been easy exercises, as experiences in Brazil, Iran and the Philippines, for example, illustrate.

The new prefabricated, barge-mounted reactors will be built in the supplier countries, involving little, if any, participation by the recipient, or subcontracting. They will be introduced almost instantaneously in much the same way that aircraft and military technology are now transferred. In some respects



A worker crosses under the control rods of a nuclear reactor.

the transfers will be simplified. Uniformity of equipment and standards will be better guaranteed, for example, when most of the purchased equipment originates from a single supplier. The undeveloped industrial structure of many developing countries will be less likely to encumber their abilities to acquire and install these new plants. Financing for small reactors, therefore, may be easier to obtain from banks and export credit agencies than were funds for conventional nuclear projects.

On the other hand, these technology transfers will be sudden, perhaps dramatic, with unique social, political and economic impacts. The projects, in most cases, will be financed by foreign exchange. Regulatory, environmental, security and operating needs will require the rapid development of institutions and programs employing highly skilled labor—the bulk of which will be imported. And the questions remain: Will this new "turn-key" mode of introducing nuclear technology impede or enhance the ability of LDCs to safely operate and efficiently maintain nuclear power plants? Will it bring new freedom or new dependency? Will suppliers install their plants and simply "walk away," leaving LDCs with more problems than solutions? And another concern: Because there are currently few internationally agreed-upon safety requirements, competing vendors may be tempted to compromise the rigid standards of the industrialized world in hopes of lowering capital costs of these units.

Despite their potential drawbacks, however, small reactors will prove attractive to many LDCs, especially where oil and gas are the only alternatives. To some countries, they will confer an early position on the nuclear learning curve. And the political attraction of small reactors will be no less than that of conventional nuclear plants.

Small reactors are just one innovation in a new round of nuclear energy developments that, taken together, could have a dramatic impact on the developing countries. The procurement of uranium from sea water, at prices as low as $300 or even $200 per pound, could alleviate the necessity of plutonium recycle and breeder reactors, greatly enhancing the prospects for effective non-proliferation controls. Laser isotope separation, a new fuel purification process now under development at Lawrence Livermore National Laboratory in California, could reduce the uranium requirements of modern commercial reactors by up to 40% by increasing the efficiency of uranium utilization in the nuclear fuel cycle. This could further alleviate the necessity of plutonium trading by prolonging available uranium resources until sea water procurement becomes assuredly cost-effective. For Third World nations, these developments raise the possibility of nuclear programs that exclude the most controversial and volatile aspects of the fuel cycle.

In these days of economic flux and constantly evolving technologies, the efficacy of the safeguards system may be at risk. The 12-year-old bargain struck between developed and developing countries under Article IV of the Non-Proliferation Treaty is now being put to the test. In return for LDC signatories' allowing international safeguards on all their nuclear facilities, the nuclear suppliers guaranteed LDCs access to civilian nuclear technology. But at the time this guarantee was made, there were so many technical and economic reasons why a large number of LDCs could not have pursued the nuclear option, even had they wanted to, that the guarantee itself lacked substance.

Today, old economic and technical constraints on nuclear power are slackening for many developing nations. Oil prices have shot up, with further increases sure to come. Electrical systems have grown. Industrial capabilities have advanced. Small reactors may be only the first element in a series of changes yet to come.

For example, let us make the assumption that the International Atomic Energy Agency (IAEA), the agency responsible for applying the safeguards, can adequately meet current demands for effective controls against military diversions from the commercial nuclear fuel cycle. Arguments now continue over the agency's ability to accommodate what the World Bank has predicted could be a 1990 load increse of no more than 15 new countries. What, then, in the case of 30 or 40 new countries?

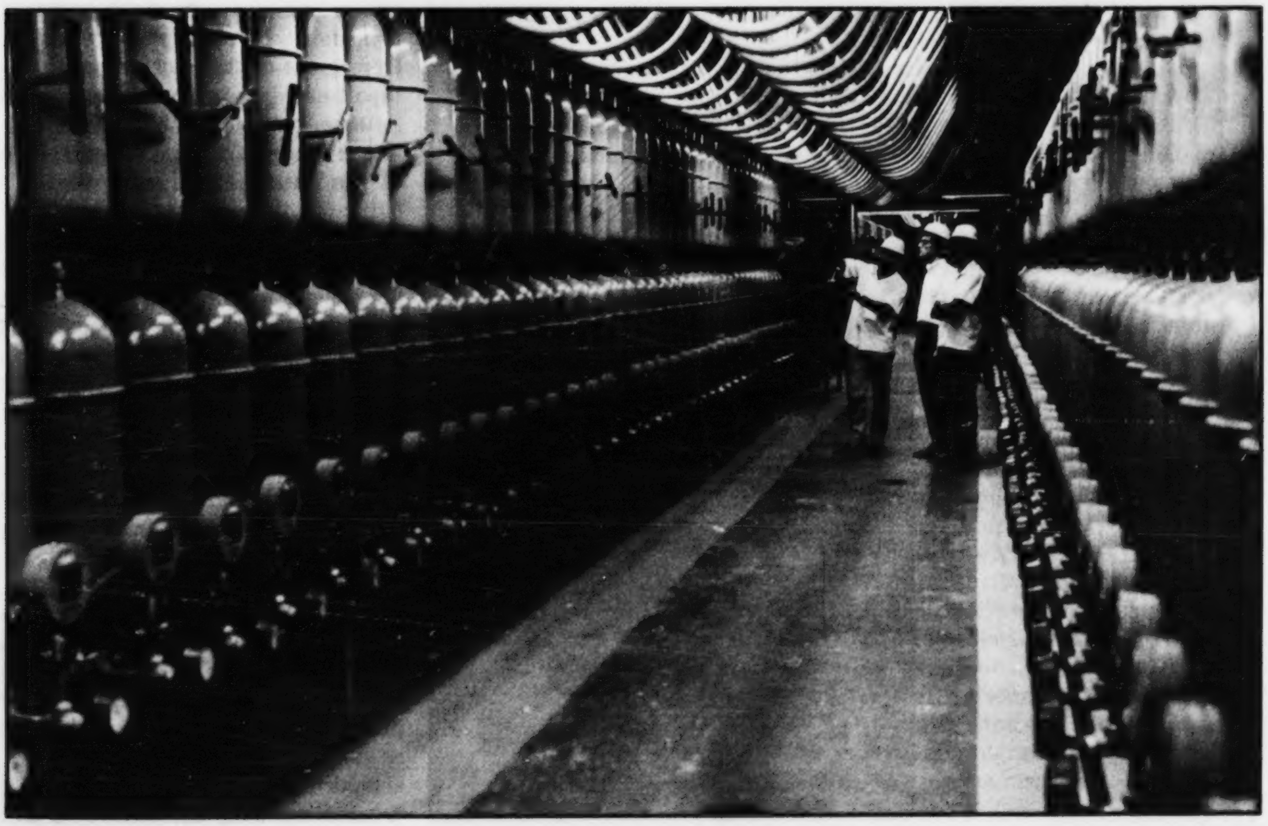
For any new technological developments to result in positive rather than negative contributions to LDCs, we'll need to learn from past mistakes, and learn quickly. First, international cooperation—with early involvement of LDCs—must begin immediately. To entrust these new technologies only to private sector or national concerns is to invoke the same pattern of discrimination and bitter moralizing, the same pendulum of "promotion" and "denial," the same uncertainty that has haunted three decades of nuclear developments in the Third World.

Second, the prospects and implications of new nuclear technologies must be jointly examined *before* extensive funds are committed for their development and marketing. If indeed nuclear energy is then to become a viable alternative for many countries, the full range of options for providing this energy will require exploration. Prefabricated, barge-mounted reactors are merely one novel option. Leased power, leased fuel, or multinational ownership of facilities, for example, have also been suggested. For countries with insufficient skilled labor, international or commercial reactor operating services similar to those now employed by many LDCs to operate national airlines might be a possibility.

And lastly, the most difficult requirements: We must move toward international standardization. And in doing so we must be prepared to come to terms with whatever inadequacies there may now be in the safeguards system. No small order, admittedly. But no small stakes, either. ☐

Joseph R. Egan is an energy consultant and writer. He recently served as an analyst of Third World energy needs at the International Energy Development Program at Argonne National Laboratory.

India installed an atomic energy plant more than 10 years ago.



When the oil crunch hit, Pakistan turned to small hydropower.

Thinking Small

by Allen R. Inversin

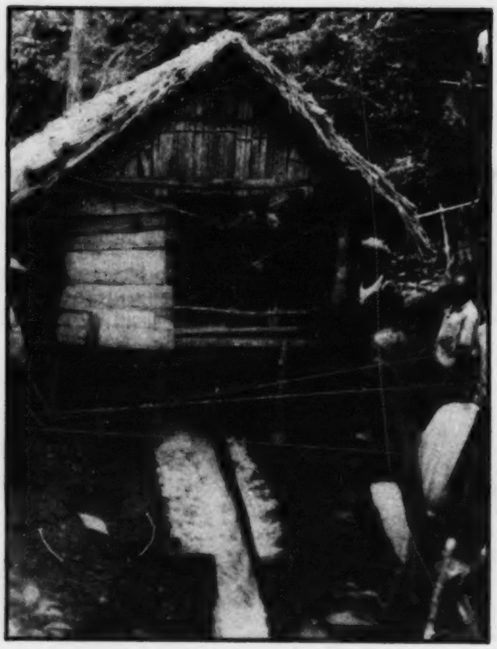
Worldwide shortages of energy, spiralling fuel costs, and the concomitant havoc they wreak on national economies have focused international attention on developing alternate, particularly renewable, sources of energy. This is particularly true in oil-importing developing countries where hard-earned foreign exchange resources are being depleted to meet increasing demands for energy.

Hydropower is the most reliable and, potentially, least costly renewable energy technology for generating electricity. However, many developing countries have not tapped this potential, especially in remote areas where high costs and management problems are stumbling blocks.

In Pakistan, however, the Appropriate Technology Development Organization (ATDO), under the Ministry of Science and Technology, has overcome these obstacles by developing appropriate designs that cater to the conditions of a site and by involving the local community in installing, operating, and managing their own systems. Such efforts have resulted in very cost-effective installations in the 5-15 kilowatt (kW) range with costs between $350 to $450 per installed kilowatt. Since the high cost of most small hydro installations is often used as an argument against their appropriateness, this is a particularly significant accomplishment.

The 1973 oil crisis triggered interest in Pakistan in developing appropriate solutions to dependence on imported oil. One was to develop hydropower. In the remote rural areas of northern Pakistan the potential was greatest. There are two readily apparent alternatives to electrifying far-flung rural areas: extension of the national grid and on-site autogeneration of power. Each presents problems. Demographic problems from great distances separating villages, and between villages and the national grid, to the lack of income-generating activities made extension of the national grid uneconomical. When a village, even one only several kilometers from the grid, is electrified, the average cost is $50,000. On-site autogeneration of power proved too costly as well because it meant reliance on commercially-produced equipment and conventional designs. In the early 1970's, Pakistan's Ministry of Water and Power installed small hydropower schemes which, at $5,000 to $6,000/kW, were still too expensive.

To address the energy needs in these rural areas and to improve the quality of life of the villagers by providing some of the basic amenities already available to city dwellers, ATDO developed a less costly approach using available hydropower resources. The organization designed equipment suitable for local fabrication, adopted civil works' de-



A small village hydropower scheme.

signs that used local materials and local labor rather than costly machinery, and developed a less costly, decentralized management structure.

Appropriate design of individual components and the entire system is the key to low cost. Construction costs for civil works are negligible since villagers supply the necessary labor and maximum use is made of locally-available materials such as wood and stone. ATDO holds down administrative costs through its emphasis on decentralized, local management by the villagers themselves. When possible, equipment, particularly the turbine, is fabricated locally. The entire system is appropriately designed for local operation and maintenance and requires no full-time operating staff. The system is designed to require a minimum of expensive technical expertise and supervision to install it.

To generate interest in this technology, ATDO originally met with village leaders in areas with plentiful hydropower potential. Although some dismissed the idea outright, others agreed to make nominal contributions of cash and labor. The first sites developed provided impetus for growing awareness of microhydropower development potential and, requests for ATDO's assistance followed. The idea has taken hold and ATDO has helped villagers put into operation about two dozen hydropower plants. In addition, more than three dozen plants are currently under construction.

Originally, ATDO anticipated the need for a team to install each of these plants. However, after working with villagers in many communities, ATDO found a high level of enthusiasm among the villagers, and that they could learn to install the plants themselves. As a result, ATDO assigns only a coordinating team to help the villagers when necessary.

When ATDO receives a request for assistance, it determines whether there are plans to extend

NRECA: Helping to Light the World

In May, 1980, AID's bureau of science and technology implemented a technical assistance program under a cooperative agreement with the National Rural Electric Cooperative Association (NRECA) to provide a wide range of technical, economic, managerial, and training services to developing countries in the field of small decentralized waterpower. This effort, the Small Decentralized Hydropower Program (SDH), is one of the number of similar alternative energy programs.

The purpose of the SDH Program is to develop and strengthen a permanent capability within NRECA's International Programs Division (IPD) to help developing countries identify and design practical small waterpower sites and implement local, national, and regional management structures capable of effectively developing this promising rural energy technology. The SDH Program's services include providing country resource surveys, conducting regional workshops, developing assessment methodologies (particularly useful in areas where hydrologic and other data are deficient or non-existent), providing training services specially designed to meet Third World needs, and other forms of technical and institutional assistance.

NRECA, a private organization formed in 1942, is dedicated to protecting the interests of member rural electric systems and to strengthening and improving rural electrification in the United States.

With passage of the Rural Electrification Act of 1935, which enabled residents in rural areas of America to organize and borrow money through the U.S. Department of Agriculture's Rural Electrification Administration, electric cooperatives were established to serve rural areas with adequate, dependable, and low-cost electricity.

Since its inception in 1961, IPD has aided developing countries establish rural electrification projects in cooperation with AID, the World Bank, and other sponsoring donor organizations. To date, NRECA/IPD has carried out more than 300 assignments to assist in the planning and implementation of rural electrification and renewable energy development programs including cooperative rural electric programs. IPD has assisted in making 1.8 million electric connections reaching 12 million of the world's poor.

An additional 10 million people have benefitted indirectly from NRECA/IPD's work through improved public health, food production, educational and recreational opportunities, employment opportunities, and other indirect benefits which come with electrification.

IPD's services include identifying areas for development; assessing the potential for, and impact of rural electrification; helping plan the institutional framework for successful projects; completing economic feasibility studies; preparing project loan applications; serving as advisers and trainers until local personnel are ready to assume responsibility; and consulting with systems and institutions involved in overseas rural electrification programs. In addition, NRECA/IPD hosts trainees from developing countries.

the national grid to the area. Based on visits to the village, ATDO assesses available potential at the site, gauges villager interest in developing the potential, and instructs them in what will be expected of them, explaining all phases of the process.

Only after it is assured that the entire community will share in the benefits accrued from developing this potential, will ATDO approve a project. If there is any doubt, ATDO withholds or delays assistance which generally serves to encourage mutual cooperation among the villagers.

Once assured, approved, the project begins. After discussions with ATDO personnel, villagers buy materials such as cement or steel that are not available locally, and build the intake structure, forebay, canal, penstock, and powerhouse.

Villagers follow small wooden models in place of blueprints. Canals to bring water to the powerhouse are similar to those which have been used in village irrigation systems in Pakistan for centuries and, therefore, villagers are familiar with them and construction presents no problems.

When a specialized skill, in electrical work for example, is needed, the villagers must find the electricians in the towns or cities.

In designing the various components of the plant, there is a tradeoff between cost and labor. ATDO's approach suits local realities well, since labor is generally more readily available than capital. Once the villagers complete the site works, ATDO provides guidance in installing the turbo-generating equipment. The electrical generator is purchased, generally from China; this is the single largest cost associated with installing the plant. To reduce costs, ATDO has organized efforts to manufacture generators locally, and several units are being field tested.

A villager designated by the community operates and maintains the plant on a daily basis. He runs it with ATDO supervision for several days, mastering the needed skills. Since there is no automatic governor, one of the operator's major tasks is to manually govern the equipment during the night. The electrical load does not vary greatly and the largest change in load occurs as villagers retire for the night. The load remains at a fairly constant, low level through the night and the operator shuts the plant down at dawn.

Now that the technology is more widely accepted, government financing, originally used primarily to promote development of hydropower, is being phased out. ATDO is presently providing technical support and fielding about half the expense of the generator. The provincial government is assuming the balance of the cost of the generator and some distribution costs as well. Local villagers are responsible for civil works and the distribution system.

High costs are a stumbling block in remote areas.

The financial assistance from the government is not repaid. Once the plant is operational, it becomes the property of the village which is then responsible for all costs associated with operating and maintaining it.

The village leaders, or other influential individuals from the village, working in league with the community, manage the system and make operational decisions such as setting the tariff or determining the hours of operation of the plant. Although it is not formalized, there is usually an equitable arrangement based on mutual trust developed over the years. Generally this fee is not based on units of electricity consumed, thus avoiding the need for meters and meter readers. Instead, the villagers are charged a monthly rate, based on the number of light bulbs in a user's home. Village homes commonly have three or four 40 to 60 watt incandescent bulbs and are charged a monthly rate of about $0.40 per bulb.

At most sites, hydropower is used both to generate electricity and to drive machines. When electricity is generated, it is mainly for domestic consumption and is generally used for lighting. However, a number of cottage industries, many housed right in the hydropower plant's powerhouse, also directly tap the mechanical power from the turbine. This power is used to operate ricehullers, woodworking equipment including saws and lathes, flour mills, and grinders.

The real beauty of ATDO's strategy in implementing these plants is its flexibility and, therefore, it holds promise for wider application. The low cost can be achieved even in larger plants using some, particularly technical, aspects of this approach. Plants of all sizes throughout the world use locally-available materials. And nearly all countries can find people with skills needed to fabricate equipment.

Villagers in remote rural areas often live at subsistence level and may be intolerant of change and reluctant to embrace new ideas. But ATDO's low-cost, villager-implemented plants seem to be catching on. Consumers have demonstrated a willingness to pay a monthly fee to electrify their homes and consumer interest remains strong. It may well take 50 years to provide electricity from the national grid to the 30,000 villages still not electrified in Pakistan. But ATDO has demonstrated an effective alternate means to help meet these energy needs. ☐

Allen R. Inversin is a micro-hydro engineer with the National Rural Electric Cooperative Assoc. This article was adapted from his "A Case Study: Micro-Hydropower Schemes in Pakistan" by the staff of NRECA's small decentralized hydro program.

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WHAT THE MEDIA SAY...

Mineral wealth, including gold, coal and rare metallic elements used in spacecraft, lies hidden beneath Egypt's vast desert and it is beginning to attract the interest of foreign investors, the Egyptian government and the local private sector.

For the first time, the government is showing a strong desire to rapidly exploit these resources for export to earn much-needed hard currency. The Ministry of Industry wants foreign companies to finance exploration and it probably will ask to participate in production-sharing agreements similar to the ones used in the oil industry.

—Journal of Commerce

Economies don't collapse, governments fall, a Western economic analyst said in San Salvador recently. His assessment of the crumbling economy was similar to the evaluation of Secretary of State Alexander M. Haig Jr. Without substantial assistance from the United States, Haig said, El Salvador's military-civilian government is likely to topple and fall.

—New York Times

The Sudan, Africa's largest country, is in serious trouble. But no matter how well-founded its fears of Libyan attack, the main dangers are internal. Rushing supplies of American jet fighters and tanks to the semidesert nation is thus a misplaced short-term solution to deep-seated problems. Doing so could also deepen the difficulties of a vast country on the verge of internal collapse.

—Robert I. Rotberg
Christian Science Monitor

The accelerated disappearance of the earth's species and the resulting shrinkage of its biological richness and diversity may be the crucial environmental issue for the rest of the century.

That was the warning raised by speakers recently at the three-day Conference on Biological Diversity, sponsored by the State Department and the Agency for International Development.

—Philip Shabecoff
New York Times

Things are going from bad to worse for the United States in Nicaragua and El Salvador. As a matter of fact, the Reagan Administration, as did that of former President Jimmy Carter, inherited some vexing problems in both countries and in two others in Central America. And as usually happens in countries where governments are unpopular, imposed or ineffectual, things get worse. Of course, the Cuban situation has been a headache since Jan. 1, 1959, and it, too, has become an increasing problem.

—Ben F. Meyer
Arkansas Gazette

Access to the vast mineral wealth of Zaire is expected to improve if the nation carries out an ambitious $700 million program to rehabilitate its waterways and transportation network.

—Lori Ioannou
Journal of Commerce

The International Wheat Council provisionally estimated 1982-83 world wheat production at about or slightly above 450 million tons, compared with 453 million tons estimated for 1981-82 and 1980-81 production of 445 million tons.

—Journal of Commerce

A beefy, profoundly religious country doctor who wears cowboy hats and supports the Reagan Administration's policies in Central America was elected the first civilian president of Honduras since 1972.

Dr. Roberto Suazo Cordova, a 53-year-old, two-term legislative deputy and rural physician who heads the nation's right-of-center Liberal Party, captured 54% of the popular vote and survived a strident campaign by his chief rival—lawyer Ricardo Zuniga Agustinus, head of the centrist National Party.

—Timothy Loughran
Wall Street Journal

The Administration made clear yesterday (Dec. 1) that after a meeting between President Reagan and Zairian President Mobutu Sese Seko that it is prepared to offer more aid to help Zaire boost its economy and modernize its armed force.

—Washington Post

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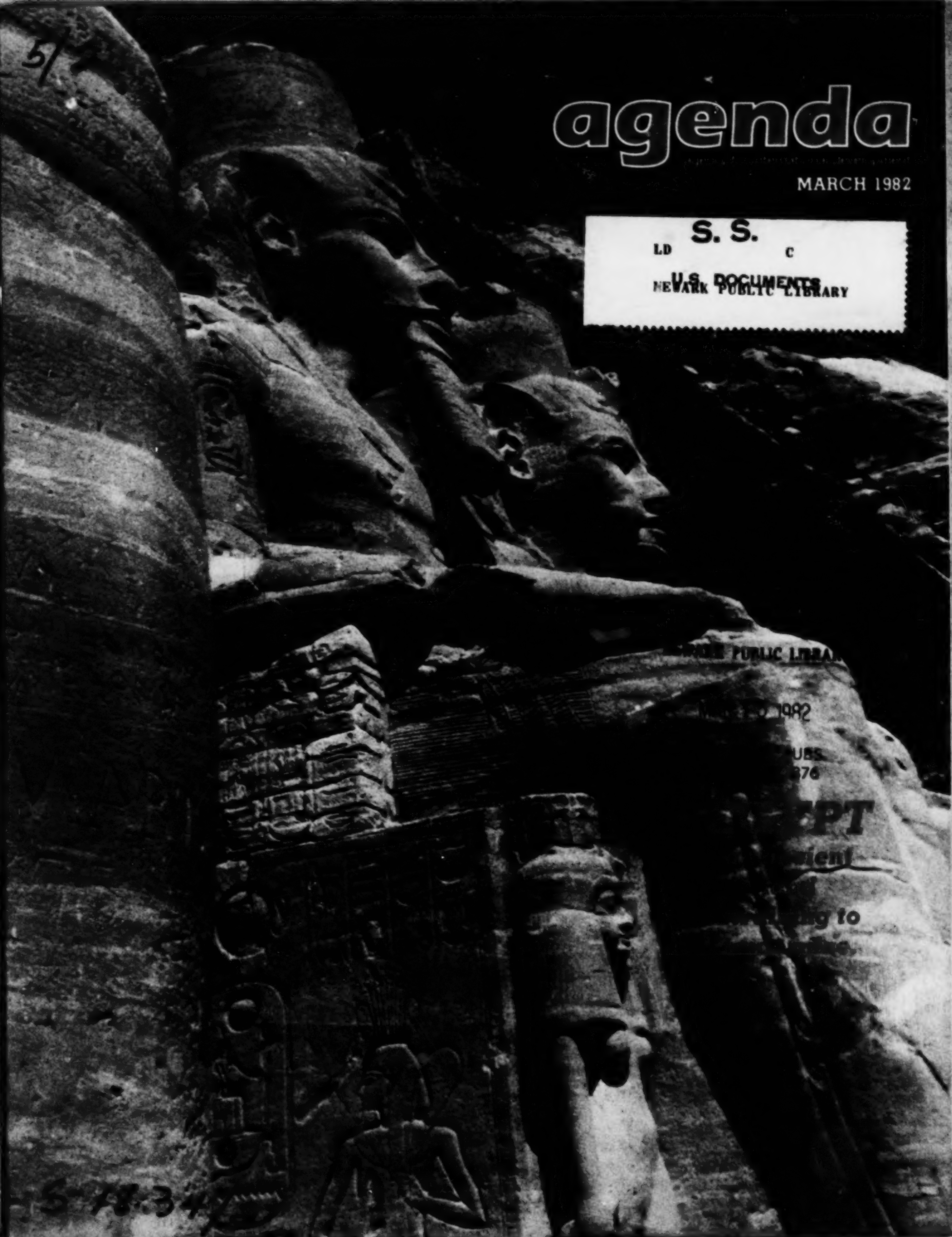

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DEVELOPMENT UPDATE

Investment by satellite? "Telemission," a new two-way audio and visual satellite will elevate business dealings between Egypt and the United States to new level. Sponsored by the Overseas Investment Corp., the United Nations Development Organization and the Egyptian government, the satellite will allow Egyptian officials to discuss investment possibilities in Egypt with potential investors in New York, Boston, San Francisco, Los Angeles, Minneapolis and Chicago. Opportunities are in food production, food processing, health and medical products and construction materials.

Land reform isn't enough: Ethiopia's experience with land reform provides evidence—if any more is needed—that land reform by itself doesn't produce more food. As a result of land reform, reports the Washington Post, Ethiopian peasants do have more to eat—they no longer have to pay half or more of their crops to landlords. But "because the government has replaced many middlemen with marketing boards using low, fixed prices, the peasants have less incentive to produce beyond their needs. . . . As a result, city dwellers must stand in line to buy limited supplies of teff, the staple grain, at the legal price of about $25 for a 220-pound sack. Ample supplies are available on the black market for about $50."

Bananas earn more foreign exchange per acre than any other crop.

You might not expect it, but the International Labor Organization has issued high praise for multinational corporations for bringing jobs to developing countries. An ILO report, however, says only about a dozen Third World countries have benefitted from multinationals' investment over the last couple of decades. The report says that although U.S. firms account for half of the investment in developing countries, recent years have seen faster increases in "annual investment flows" from Japan and East Germany than from the United States.

Reverse transfer of technology is what the United Nations calls the migration of skilled workers from the Third World to such countries as the United States, Canada and England. Between 1961 and 1972, says the U.N. Conference on Trade and Development, the developing countries gave these three countries close to $44 billion in the form of some 231,000 skilled migrants. Total official development aid from the three industrialized countries amounted to $46 billion during the same period. The reasons these workers leave their home countries are the same as those prompting migration from the rural to urban areas in the Third World—lack of land, wage and employment gaps and population pressures. Sergio Diaz-Briquets, program director for the Population Reference Bureau in Washington, refers to it as a case of "modernization without development."

If the crow had to walk instead of fly, it might not be such a hardship. In 137 countries of the world, there are over 12 million miles of roads, and that doesn't include China or most of the communist bloc. That distance is equivalent to 27 round trips to the moon, says the International Road Federation, reporting in Worldwide Projects magazine. With 21.6 miles of roads, the South Pacific's Cook Islands has the smallest network. The largest is the United States' almost 4 million miles.

agenda
agency for international development

Cover: Egypt is a proud country—perhaps none other has a cultural heritage so rich. But now it is struggling to fit into a modern age. The unique characteristics of the land, its people and its history have put a distinctive stamp on AID's relationship with Egypt, but at the same time AID's activities there may well be a microcosm of economic development assistance worldwide. This issue is devoted to articles showing the difficulty of the tasks ahead, and the progress already being made by Egyptians and Americans working together.

Cover Photo: United Nations/UNESCO
Photo credits: James F. Bednar, pp. 4, 8, 20; Clyde McNair/AID, p. 3; B.P. Wolff United Nations, p. 5; AID all others.

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Unless otherwise noted, all articles in this issue are by James F. Bednar, writer-editor in AID's Office of Public Affairs.

Agenda is published 10 times a year by the Agency for International Development, a part of the International Development Cooperation Agency. *Agenda* is free upon request to the U.S. public. Readers are invited to submit original manuscripts (including speeches) and photographs on any aspect of international development. Such material cannot be returned unless accompanied by a stamped, self-addressed envelope of sufficient size and strength. Contents of this publication may be reprinted or excerpted unless copy-righted or non-AID source is noted. Credit to *Agenda* is requested.

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AID AND EGYPT

A statement by W. Antoinette Ford, Assistant Administrator, Bureau for Near East.

When President Reagan and Administrator McPherson asked me to join the Agency for International Development as Assistant Administrator for the Near East, I was eager to accept the challenge. AID's Near East development programs include the Agency's largest programs as well as some of the smallest. They cover a wide variety of activities, and are being carried out in a region of great political complexity, volatility and importance. Our programs in Egypt, as you will see in the articles that follow, are a microcosm of most of AID's activities worldwide. At the same time, the program's size, the unique characteristics of Egypt as a country, of its people and of its history, have put a distinctive stamp on AID's relationship with that country. Egypt was the first country I visited after assuming my current responsibilities. I hope that this special issue of AGENDA will convey at least a small part of what I personally experienced.

U.S. assistance to Egypt was resumed in 1975 against the backdrop of a major U.S. foreign policy initiative to achieve peace and stability in the Middle East. The AID component of this assistance is designed to accomplish three objectives in support of Egypt's development: stability, productivity and equity. The relative emphasis given to each of the three objectives and the mechanisms for achieving them have evolved since 1975, as circumstances changed and we gained experience in working with the Egyptians (and they with us). Nevertheless, the basic goals have remained the same.

PL-480 Title I loans and the Commodity Import Program promote stability by providing balance of payments support for the purchase of essential food commodities, raw materials and intermediate goods.

Increasing productivity is addressed in a variety of ways and in many sectors. In the first place, much basic infrastructure—port facilities, power systems, telecommunications—that had deteriorated or had been destroyed had to be replaced. Inefficient and outmoded industrial plants are being rehabilitated

New Trade Financing Facility Gets Underway

AID's new Trade Financing Facility (TFF) in Egypt, which became operable in December, will enable U.S. exporters to better compete with foreign companies for Egyptian business. U.S. firms have lost bids to provide Egypt with requested commodities because, even after offering the lowest, responsive price, they have been unable to offer financial terms that are competitive with concessional financing offered by non-U.S. firms.

The TFF was established under the Commodity Import Program and financed with a $25 million AID grant. The decision to assist any particular transaction with TFF earmarked funds must be made with the concurrence of both AID and the Government of Egypt.

TFF financing is available only when a U.S. firm already has offered Egypt the lowest responsive price for requested goods and both U.S. and non-U.S. companies are competing for the same commodity supply offer.

Funds from the TFF may be used to finance up to 50% of the total contract price, with a maximum limit of $10 million per individual transaction. The Government of Egypt will determine the actual amount to be financed through the facility on a case-by-case basis.

The Government of Egypt and AID believe the TFF will help increase the participation of American firms in Egypt's economic development. At the same time, both countries expect the facility to create a wider selection of cost-competitive goods and related services to help Egypt minimize its import bills.

For more information, please contact:
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M. Peter McPherson, right, AID Administrator, with Fettah Ibrahim, Deputy Prime Minister of Egypt, upon the signing of a $300 million grant agreement.

and modernized. The long-neglected private industrial sector is being paid special attention. Although Egyptian agriculture already is highly productive, ways are being found to increase that productivity further through research and extension activities, more direct support to farmers with credit and cooperative programs, and improvements to the irrigation system upon which all Egyptian agriculture depends. Upgrading of human resources through training programs in the United States, direct transfer of technology, and assistance to Egypt's many educational and scientific institutions is contributing to productivity throughout the economy.

The goal of equity is being pursued in a variety of ways as well. Urban water and sewer systems and comparable infrastructure improvements in small towns and villages are examples. Another is improvement of health programs, especially those aimed at reduction of infant mortality and delivery of health services to previously unserved elements of the population. Population programs are stressed not only for their national economic importance, but also because effective family planning directly affects maternal and child health. In education, efforts are aimed at improving access of primary school children to relevant education, with particular attention to increasing the education of girls and women and rural students.

These goals cannot be achieved overnight. But Egypt is making rapid progress toward them and we are proud of AID's contribution.

United States and Egypt Sign $300 Million Grant Agreement

The United States and Egypt have signed a $300 million grant agreement to strengthen Egypt's economy and enable that country to buy hundreds of commodities from American suppliers.

The agreement was signed at the State Department by M. Peter McPherson, Administrator of the U.S. Agency for International Development and Fettah Ibrahim, Deputy Prime Minister of Egypt.

"Under the AID commodity import agreement," McPherson said, "Egypt can buy goods it needs to increase agricultural and industrial production and create jobs. The goods, all to be purchased in the United States, could include tallow, corn, cooking oil, tin plate, fertilizers, pesticides, trucks, agricultural machinery, earthmoving equipment, and hundreds of other items."

The new $300 million grant is divided into three parts:

- $150 million to buy basic supplies from the United States,
- $100 million for basic investment in goods and raw materials in various sectors of the Egyptian economy, such as agriculture, industry, health and education,
- $50 million for continuation of funding for the new Trade Financing Facility in Egypt.

"The most important objective of U.S. economic assistance to Egypt—and other countries in the Middle East—is to help bring peace to the area," McPherson said. "We do this primarily through AID's Economic Support Fund, which includes the Commodity Import program we announced today."

"We expect that the grant agreement signed today will help Egypt continue its economic progress."

EGYPT: IN PURSUIT OF PROGRESS

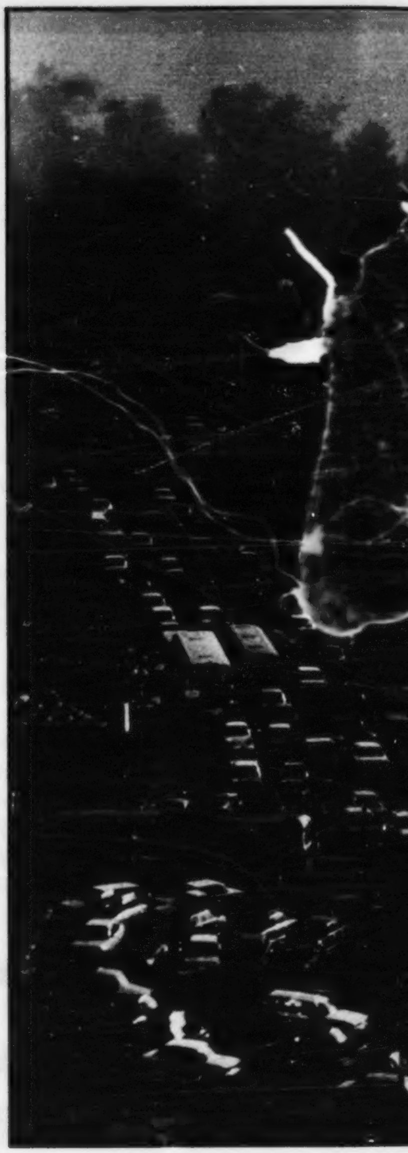
An ancient land pushes into a modern age.

My travel alarm cuts through the pre-dawn hush of the middle class hotel in Luxor, a small city just across the Nile from ancient Thebes. The city is dark—another electrical brownout—not as common today as in the past years, but still occurring now and then throughout Egypt. So, by candlelight I prepare for a trek by bus into the Egyptian countryside and a taste of what is everyday life for most of the nation's 44 million people.

Hopscotching across the sleeping bodies of porters, busboys, clerks, and cooks strewn across the lobby floor, I reach the cool of the street. The dust parches my throat. No surprise; there has been no rain here in Upper Egypt for months and none is expected. This region will accumulate an inch at the most this year.

At this hour the streets, too, are quiet, not as they will be by mid-morning—churning with activity in heat of 100 degrees or more. But now the peace is broken only by the clatter of the horse-drawn cab carrying me to the bus depot.

There, despite the hour and in contrast to the tranquility elsewhere, a crowd has gathered. They are common folk, most bound for villages and outlying areas along the route to Quena and Aswan. The signal to board is given and I am swept up in a rush that soon fills every seat. It's just the beginning.



In a short time we make our first stop, to pick up more passengers, and now the bus is overloaded. There are people everywhere.

Surprisingly, the now-intense heat and the crush of bodies produce a kind of calm. A rhythmic, almost hypnotic music drifts in and out over the sound system. An old woman, wrapped in black cloth and veil and crouched on the aisle floor, closes her eyes and sways to the tune.

The beat-up bus, age 5-going-on-30, careens along what is a relatively good road paralleling the Nile.

Virtually the only source of water for the entire country, the Nile threads its way for 500 miles from Upper Egypt in the south to the Mediterranean Sea in the north. But the river only sustains a meager 4% of all of Egypt's land. And that is, in effect, a narrow strip of fertile soil in an otherwise constant desert. Almost all of Egypt's people are crowded onto that narrow green strip.

An hour or so out of Luxor, our bus stops, this time for a very young woman, a baby in her arms. Clearly it is her first, but like most women here, she will probably have six or seven more. And, going by statistics, one or two of them won't live beyond infancy.

Through a growing cloud of dust that seems to increase with the temperature, I can barely make out fields of wheat, sorghum and sugar cane. There are farmers at work there, using tools that are little changed from what generations of farmers before them have used. Their families sit on the ground in the shade of palm trees. A water buffalo turns a pump bringing water to the fields from an irrigation canal. The beast is blindfolded—so it won't see that it is tracing an endless circle, I am told.

Now we leave the pavement and bump along a country road. Flat-roofed, mud brick houses come into view and fly by, a few at first, then more in a blur. The horn blares and men in long flowing robes and turbans, women balancing baskets of live ducks or green peppers on their heads, and children, some of them leading herds of sheep and camels, scurry out of the way.

I have to brace myself to avoid falling into the passenger next to me as the bus halts abruptly. The old woman in the aisle now struggles to get up, and the men next to her quickly raise her above their heads, as if she were no more than a bundle of black rags, and pass her hand-over-hand to the door and outside. The bus shudders and moves on.

When endless dust totally defeats my efforts to see through the peephole I have scratched in the dirt-encrusted window, I surrender, as the old woman did, to the music. Soon we will reach Aswan and the end of the journey.

Egypt is a proud country—perhaps none other has a cultural heritage as rich. But now it is struggling to fit into a modern age. What is clear to the observer is that the route to industrialization is, and will be for some time, strewn with formidable obstacles. At least one of them is shared by most developing countries: too many people on too little land. But Egypt has added burdens: an economy drained by a 30-year state of war—now ended—and a 20-year experiment—now discarded—with a centrally controlled economy characterized by tight controls and burdensome subsidies.

According to official record in 1974, while pursuing peace, Egypt started to move toward a market-oriented economic system, lessening government intervention. After two previous decades of government regulation of prices, resources, industrial production, agricultural production—and almost every aspect of daily life—the transition has not been easy. A delicate balance of social, political and economic demands has been essential.

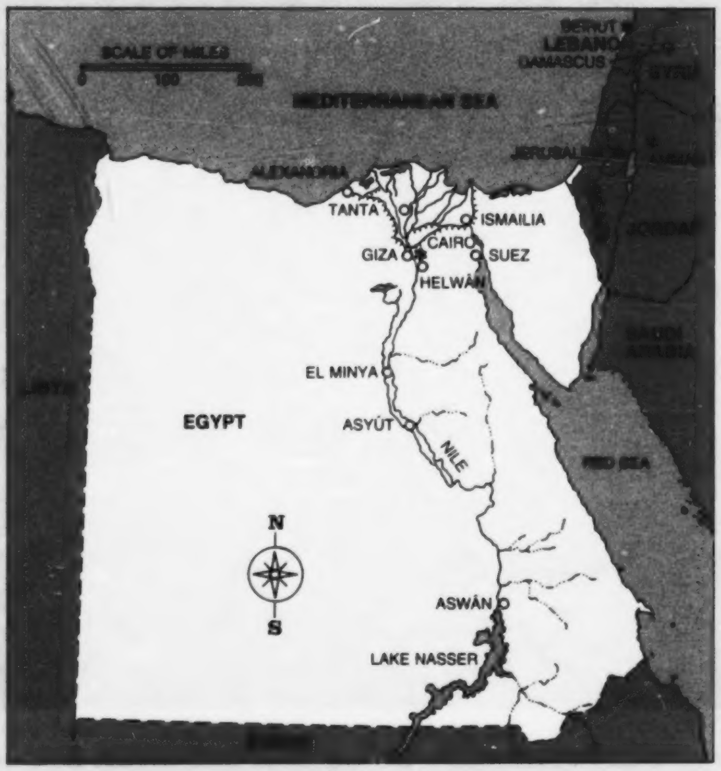
Since 1975, recognizing the difficulty of the task ahead—and the great importance of Egypt to U.S. interests in the Middle East and to peace—the United States, through AID, extended a helping hand in the form of the largest foreign economic assistance program in history. Between 1975 and 1981, U.S. economic aid totaled $6.1 billion. The second-largest program for the same period was in Israel where the total AID economic assistance package was $5 billion.

Egypt's population has more than tripled in this century alone. Yet the area of cultivated land has remained by and large the same. To change this, the Egyptians, with AID help, are building up research and extension services, improving irrigation systems, and expanding credit and cooperative programs.

The results will not come overnight. Boosting farm output is a long-range endeavor.

In the meantime, experts told me, there are some serious problems to be addressed. For example, by 1970, because of the limitations of the growing imbalance of what farms produced and what people needed to eat, 40% of all the food Egypt needed was being imported. As costs have escalated, so has the burden on the economy. Resources that could have been directed to investment, capital improvements and the like, have had to be diverted to pay for the food.

And there has been another economic drain: defense. At one point in the early 70s, 40% of Egypt's gross national product went for arms.



Arab Republic of Egypt
Capital: Cairo (population about 10 million)
Population: 44 million (1981)
Land area: 386,100 sq.m. (slightly larger than California, Nevada and Oregon combined)
Annual population growth rate: about 3.0%—three times the U.S. growth rate
Gross National Product per person: $480
Major agricultural products: cotton, wheat, rice, corn
Industry: petroleum products, chemicals, fertilizer, textiles.
Jobs: 50% in ariculture, 13% in industry
Major exports: petroleum, cotton
Major imports: food, particularly wheat, vegetable oil and sugar; industrial equipment and materials
Main trading partners: United States, Italy, West Germany

All in all, any regular upkeep or improvement of railroads, highways, telephones, and power plants has been delayed at best. Making the situation even worse was the widespread destruction that the recurring fighting with Israel wrought, particularly in the Suez area. There one still can see rusty, twisted skeletons of troop carriers and armored vehicles and the piles of rubble that once were houses. What many analysts consider the most devastating blow to the Egyptian economy came in 1967 during the Six Day War with Israel, when so many ships were sunk in the Suez Canal that it had to be closed, and with it its three ports, Port Said, Suez and Ismailia. As a result, a major source of revenue, primarily from transit fees—about $300 million a year—dried up.

A change for the better began to take shape when in 1974 then President Anwar Sadat announced his *Infitah* or Open Door Policy in recognition that something drastic had to be done to stop skyrocketing debt and economic deterioration.

Infitah represented a totally new economic and foreign-policy thrust for Egypt. Sadat reduced ties with the Soviet Union and the Eastern Bloc, ties already frayed after the expulsion of Soviet military advisers in 1972. More importantly, Sadat embarked on the road to peace with Israel, fully aware that this action would be met with hostility by the other Arab nations.

That hostility took the form of a suspension of Arab aid to Egypt, about $1 billion a year from Saudi Arabia, Kuwait, United Arab Emirates and Libya. But that punitive measure was countered by an increase in Egypt's exchange earnings and by U.S. and Western aid. U.S. economic assistance began in 1975—then a total of $372 million—almost all for rebuilding after the war. The assistance was twofold: AID set up a Commodity Import Program (CIP) to finance imports of consumer items, raw materials and other goods. In addition, AID provided Food for Peace, PL-480, direct donations of food.

Initial AID projects concentrated on the wartorn Suez zone. The Americans, with the French and the British, helped Egypt clear the Canal; it reopened in 1975. By 1980, its earnings totaled $660 million a year.

Now an ongoing program to widen and deepen the waterway for supertankers offers potential earning increases of up to $1.5 billion yearly by 1985.

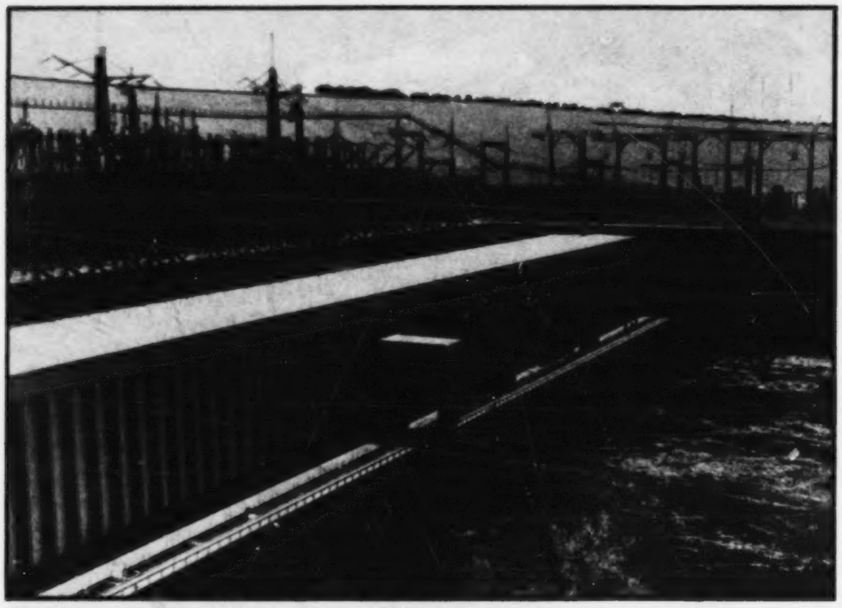
Other foreign exchange earnings have increased. For example, about 50% of the oil produced in Egypt is exported; revenues reached about $2.7 billion in 1980. With the return of the Sinai oil fields, and with continued exploration in the Suez, that figure may go higher.

One of the largest sources of foreign exchange comes directly from the Egyptian people—the 1.5 million who work in other countries. The pay—or remittances—they send home totaled about $2.7 billion in 1980. These workers teach in Algeria and Saudi Arabia, run oil rigs in Libya, work in health clinics and hospitals in Saudi Arabia and farm in Iraq.

Tourism is still another source of foreign revenue. Earnings from visitors to Egypt's historic ruins and elsewhere have risen from $600 million in the mid-70s to $780 million in 1980. It is expected that the figure will reach $1.5 billion a year by 1985. In anticipation, Cairo is in the midst of a hotel building boom.

With the picture getting brighter for foreign exchange, AID's program is increasingly focusing on the domestic economy and on shoring up its underpinnings: power generation and distribution, port improvement, water and sewer systems, and communications. No less important is creating a climate that will allow the nation's industries to modernize and expand.

Many industries found themselves part of a growing public sector during Egypt's experiment in central planning. Then, in addition to nationalizing the Suez Canal in 1956, the government took over the financial institutions and foreign branches of



The Aswan High Dam is Egypt's largest single source of power.

European-owned firms. By 1964, all mining, utilities, communications and finance and almost all manufacturing, transportation, trade and large construction firms were absorbed. What was left of the private sector—mostly small and medium-sized businesses—was subject to excessive government regulations, including fixed prices and control of supplies and capital flows.

While the system was well-intentioned—its objective was equal distribution of wealth and income—the trouble with it, economists say, was that it encouraged inefficiency; there was not enough competition, and there were too many workers with too little to do. Decision-making became more centralized, and this de-emphasized the need and the incentive for individual initiative. The result: economic stagnation. Growth rates dipped.

U.S. LEADS IN ECONOMIC ASSISTANCE.

For the past few years, Egypt has received an average of $2 billion a year in foreign economic assistance from all sources. While the United States' program, totaling $1.2 billion in 1980, has accounted for over half of the total, other donors have made important contributions:

World Bank funds, $450 million in 1980, have contributed to the widening and deepening of the Suez Canal, drainage projects in the Delta and Upper Egypt, power plants, telecommunications, and railway improvements throughout the country.

West German funds, about $150 million in 1980, were mainly grants for improving fertilizer production, the water supply in Cairo, a Suez power plant, an Aswan claybrick factory, a cement factory, sugar plants and several power plants.

Japan's aid, totaling $175 million in 1980, was a combination of commodity import financing and project funding. Major projects include Suez Canal reconstruction, Alexandria port renovation, Cairo water supply improvement, power plants, Cairo airport improvements and an iron and steel plant.

Sadat's Open Door policy set a new course. It called for a liberalization of the economy, encouragement of foreign investment, increased support for the private sector and decentralization of government, and control and economic decision-making at the local level.

But there has been some anxiety about the shift. After more than 20 years of government domination, both the bureaucracy and some interest groups, facing massive readjustment, are reluctant to let the market control resources and prices.

Despite this resistance, with U.S. help, Egypt has been able to bring about change. AID has helped to pinpoint specific measures needed to improve efficiency in public sector industries including large construction firms and textile manufacturers. Moreover, AID has encouraged investment in privately-owned plants either by making technical assistance or credit available for expansion.

The Open Door policy also has encouraged foreign investment. Between 1975 and 1979, national investment averaged about 25% of the GNP—up sharply from the average 14% during the preceding five years. By comparison, during the same period, 1975-1979, U.S. private investment represented 14% of the U.S. GNP. And from these foreign investors, the Egyptians are learning new technology and better management. Egyptian Law 43, passed in 1974, allowed foreign firms to bring in equipment without having to pay a tariff. Foreign investors now may form joint ventures with public sector companies. Benefits include tax holidays and a guarantee against nationalization. Already Union Carbide, Squibb and Coca-Cola have set up operations. By 1980, new foreign, private (non-oil) investment had reached about $400 million a year, compared with $100 million just three years earlier. The total U.S. private investment is now over $2 billion.

Also part of Sadat's plan, Egypt's

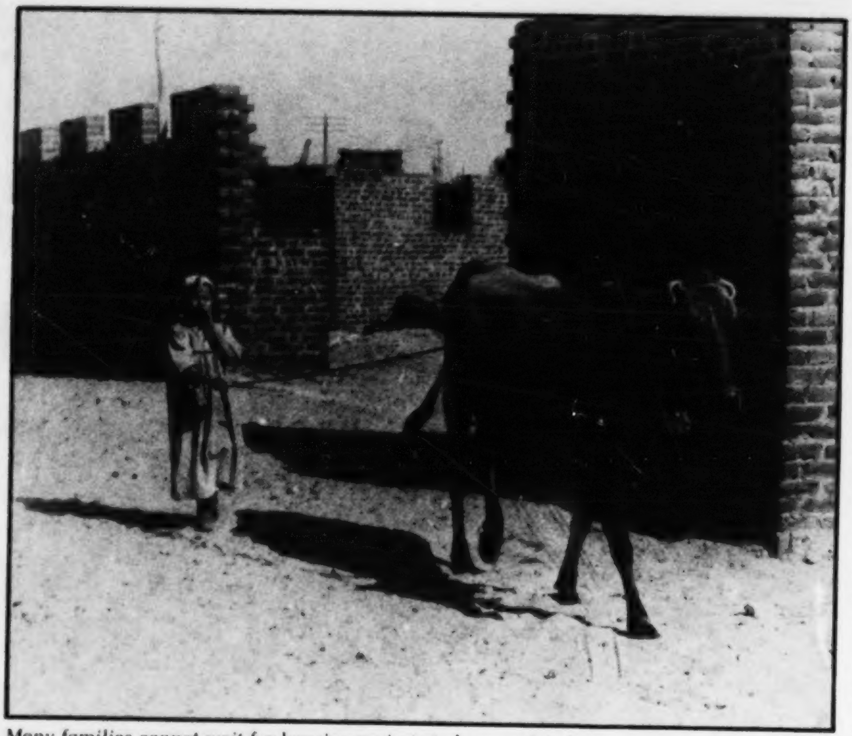
efforts to diminish the role of the central government is not unlike President Reagan's efforts to increase the role of state governments. The 25 Egyptian "states" are called governorates. In addition to a governor appointed by the president, each has village chiefs and councils. Until recent reforms, decisions, even those directly affecting a village, were made in Cairo and carried out by the governor. Trying to reverse this hierarchy has been difficult, since few village leaders have the know-how to fully carry out their new responsibilities. Here, too, AID is helping—by training some of these leaders and by aiming various projects at giving added decision-making responsibility at lower levels. For example, one project not only provides guidance in making decisions, but also makes credit available for setting up small-scale profit-making enterprises—fish and poultry farms and pickling factories, to name a few. Another project supports villages trying to improve their own roads, public transportation, and water and sewer systems.

The social and economic benefits achieved under the centralized system have been retained with ongoing emphasis on public education, health and on helping people buy food. Primary and preparatory school registration has tripled in 20 years. The number of hospital beds has more than doubled and 2,500 clinics with professional staffs have been set up. Egyptians have been protected from worldwide inflation by the government subsidies of such basic necessities as flour, rice, sugar and tea.

While these programs have achieved social improvements, they also have produced a heavy drain on the economy. The food subsidies have cut deeply into the national budget. By 1980 the subsidy program cost $1.7 billion—an amount equal to Egypt's 1979 budget deficit, or over 10% of the GNP.

But to make any change in the subsidy program is fraught with moral

Many of today's farming methods mirror those of thousands of years ago.



Many families cannot wait for housing projects to be completed.

and political pitfalls. Even with the subsidies, many Egyptian families spend between 70% and 80% of their income (average income is $630 a year, compared with the U.S. average of $12,000 a year) on food. In January 1977, when the government attempted to reduce subsidies on flour and some other foods the people rioted—there were 80 deaths. The subsidies were restored. Now, still attempting reform but determined to protect the poor, the government is planning to introduce a food stamp program this year. It was Sadat's wish; and Egypt's new president, Hosni Mubarak, has vowed to follow through with it.

But resistance to overhauling the subsidy program can be found in industry as well. Its stake is in the cost of energy. The heretofore fixed low price for fuel is about one-fifth that of world prices. Business leaders say this has freed industry from concerns about energy efficiency and has encouraged growth; if the subsidies end, entire industries will be forced to make major production changes or raise prices drastically. The situation is reminiscent of that encountered recently by the American auto industry.

"Detroit is retooling to the tune of $8 billion," one AID economist in Cairo told me. "And Egypt's industries may well have to do the same."

In the end, the success of the Open Door policy and the peace initiative depends on the support of the people. That support depends on an economic and political stability that is fragile. With 3,000 people now crammed onto every square mile of arable land (as compared with 133 people per U.S. square mile), the nation's health clinics, hospitals and water, sewer, housing and transportation systems cannot handle steadily increasing numbers.

In response, the government has targeted population growth and, with AID support, has encouraged a more comprehensive family planning program. A massive public information campaign has placed billboards throughout the country, run television and radio ads and used other techniques to promote the idea. AID's population projects also help increase the availability and supply of contraceptives. In addition, AID has several other projects aimed at improving life for most Egyptians. For example, although there are networks of hospitals, schools, clinics and social centers already throughout the country, over the years the quality of services they offer has deteriorated. Now AID is helping to train personnel and modernize facilities. Other AID projects are attempting to lessen the number of infants who die because of poor sanitation and unsafe water.

Without doubt Egypt has taken several important steps forward. Economic growth is between 8% and 10% a year now, compared to 3% in the early 1970s. The balance of payments is improved. The Suez Canal and the ports of Alexandria, Suez and Port Said are working more smoothly and are handling more trade than ever before. Cairo's telephones, while not perfect, are much better than they were five years ago when it was difficult, if not impossible, to call across the city. Buses, trucks and trains are moving people and goods between villages and cities. Rural areas have new wells and water pumps, bringing clean water closer to the homes. Parts of Alexandria now have a sewer system for the first time. Electricity is becoming more available, brownouts, less common. Farmers can borrow money to improve their livestock or buy threshers or diesel irrigation pumps. A recent World Bank report concluded that "vitality characterizes the Egyptian economy."

But Egypt's hold on that vitality is tenuous. U.S. foreign assistance to Egypt is therefore crucial to satisfying economic and social needs, giving time for the process to take hold. The AID program is helping develop a self-supporting Egyptian economy. But, as so many told me, no one should underestimate the difficulties involved. ☐

STOPGAP

U.S. assistance is buying time for development.

Huge diesel trucks roar out of Gate 10, the port of Alexandria's main exit. These giant mechanical beasts of burden groan under the weight of piled-high cargo: bags of grain, flour, fertilizer, cement, plywood, rolls of newsprint paper, steel cable. By late in the evening, some of the trucks will be rolling down the streets of Cairo, delivering their cargo to factories, stores or construction sites. Others will still be en route to delivery points in Upper Egypt, miles to the south.

Inside the port, cranes and forklifts work furiously to unload the ships. At one dock, giant vacuum machines hum as they draw gain from ships' hulls into waiting burlap sacks. Barefoot workmen quickly sew the bags shut with needle and thread. At another dock, a crane loads bales of cotton, one of Egypt's most important exports, onto a ship. And nearby, railcars laden with coal slowly head out of the port, bound for Egypt's steel mills. In the background, giant silos tower over the dizzying commotion.

The scene in the port is in stark contrast to what it was just six years ago, following the aftermath of a devastating war. Then the only functioning port in the country because of the closing of the Suez Canal, Alexandria was bending under the strain. Designed 150 years before, it had been little changed since. And with Egypt having to import about 40% of its food, Alexandria was faltering. At times as many as 100 ships were anchored outside the port awaiting a berth.

The badly needed food rotted or became pest-infested in ships' hulls or on the docks. Because there were no storage facilities, unloaded cargo lay in piles wherever there was space. The aging equipment and trucks frequently broke down, and when they did, they were abandoned where they stood until spare parts could be found.

Two "stopgap" measures were primarily responsible for changing this scenario. They were AID's Commodity Import and Food for Peace programs—both

Once faltering, the port of Alexandria is flourishing today.

aimed at providing short-term relief while Egypt invested in much needed, longer-term development programs.

The Commodity Import Program (CIP) finances imports of U.S. equipment, raw materials, agricultural goods, and consumer items. The Food for Peace Program provides help to Egypt in two ways: Under Title I, low-interest, long-term loans cover the cost of importing U.S. food; under Title II, food is given on a grant basis for distribution at maternal-child health centers, rural schools, orphanages and other child centers. Together, these programs have accounted for about $3.1 billion—or 57%—of U.S. economic assistance to Egypt from 1975 to 1981.

HOW CIP WORKS IN EGYPT

The Commodity Import Program has been a major avenue for U.S. business entering the Egyptian market. By CIP requiring, with very few exceptions, U.S.-manufactured commodities, U.S. businesses are introduced to Egypt and then usually expand beyond the CIP-financed imports.

The actual allocation of CIP's "line of credit" among Egyptian agencies is up to the Egyptian Government. The Ministry of Finance weighs the requests from the numerous government ministries, then passes the approved requests on to AID. Once those requests are in turn approved by AID, the Egyptian embassy in Washington, invites U.S. companies to bid on the needed commodity for delivery to Egypt. The bidding normally closes after 45 days followed by Egyptian buyers evaluating which supplier fills their needs at the lowest price. After embassy and ministerial approval, a letter of credit is issued authorizing the required funds to be drawn from one of 19 participating U.S. banks. AID then reimburses the U.S. bank. Procedures established by the Government of Egypt are used for the 10% set aside by the private sector importers. Standard international letters of credit are issued by the Egyptian banks through U.S. banks where AID funds are to cover the financing of the letters of credit.

The CIP not only fills Egypt's immediate needs but also gives the Egyptians experience in commercial and international trade practices by allowing them to be the main actors. But the program is carefully monitored by AID. A post audit is done on every transaction and all U.S. suppliers must agree to completely open records. "Actually, the best policemen of the program," says Rance Looper, one of AID's CIP officers in Washington, "are the U.S. businesses competing for the contracts. The bidders assure that commodities offered really meet the published requirements by comparing their own offers with those of their competitors. They immediately notify the buyer and AID of any discrepancies."

Over 400 firms throughout the United States have directly benefited from the CIP. In addition, U.S. trade with Egypt has increased, surpassing $2 billion from 1975 to 1980. The United States has become Egypt's major trading partner followed by Italy and West Germany. The opportunities offered by an Egyptian market are just beginning for U.S. business.

The port of Alexandria story shows how these programs have been put to effective use:

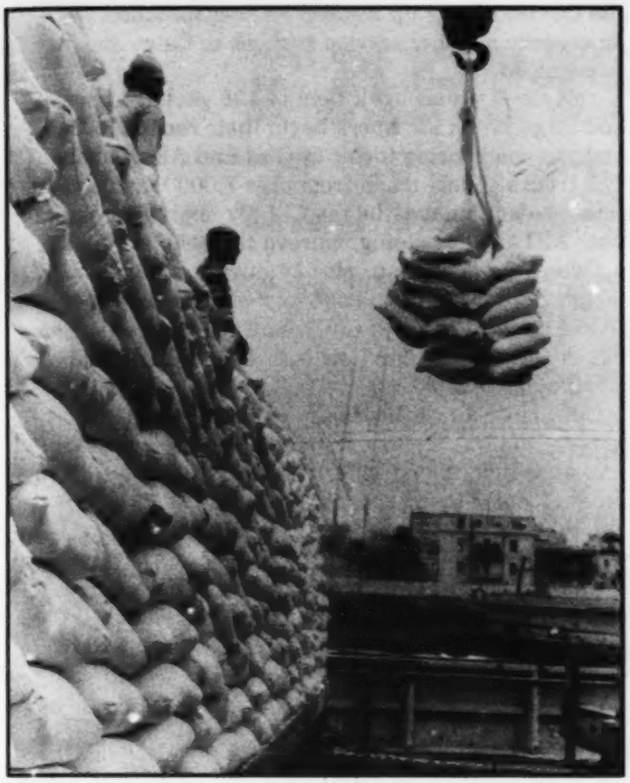
In April 1975, AID brought Ernie Ball of PRC Harris Inc. to Alexandria to recommend ways to solve the port's congestion and chaos. Within two months, and at Ball's urging, the Egyptian army brought in a fleet of trucks to move the piles of cargo out of the port. The first step taken, Ball then recommended a list of the new equipment, renovations and changes that had to be made for the port to handle the trade load expected in 1980. His recommendations and a World Bank study resulted in a joint U.S., World Bank, Japanese project.

Japan supplied $25 million worth of marine equipment such as tugs and barges; the World Bank provided $55 million for improving the docks and ship berths; and AID financed a $30 million cargo-handling equipment project. Many of the cranes, forklifts and trucks working in the port today were delivered under this project. Also two prefabricated warehouses were put up to help the stevedores keep their equipment working.

Today, the Egyptian workers proudly show visitors row after row of a well-organized spare parts inventory. In the second warehouse workers repair the trucks, and across the street a renovated workshop repairs the engines. "Before, the so-called repair shops were unsafe and unmanageable," says Ball. "Mud and grease covered the floors and tools. Spare parts were hardly ever available in the port."

Besides equipment to unload the cargo, AID has financed much of the needed transportation equipment to get the cargo—in large part, U.S.-donated food—to where it is needed. Over 700 of the heavily laden trucks were purchased through the CIP. Over 1,100 AID-financed freight cars, including 15 refrigerated cars, and 250 rebuilt diesel engines haul cargo throughout Egypt. These cars make up about 16% of Egypt's total rail cargo capacity. About 250 marine diesel engines purchased through the CIP have upgraded barge transportation on the Nile.

Cutting the waste and spoilage of the grain, tallow and edible oils has been another AID concern. The 96 AID-financed portable grain vacuums unload up to 70 tons an hour. The silos in the Alexandria port are one of AID's projects to improve storage and distribution systems. Similar silos are being built outside Cairo. The silos and the adjoining renovated pier will greatly reduce losses, tripling the grain capacity of the port, therefore reducing the costly waiting time for ships. The automatic unloading and bagging equipment will shorten the time to get the cargo out of the port.



Since 1975 Egypt has imported about 8.7 million tons of wheat and flour alone.

New equipment and technology provided under the Commodity Import Program is giving new life to industry.

"The purpose of the silos is not long-term storage but better distribution," says contractor Harry Collins of Kiddie Consultants. "As part of the project, the Egyptian government is upgrading the railroad tracks in the port. So imports will be able to leave the port by rail, truck or barge."

The pace of the Alexandria port bears witness to the improvements made there. The port handles 90% of all Egypt's imports. While the material moved through the port has increased annually by 6.5 million tons since 1976, the ships' waiting time has been cut by over 20%, saving the Egyptian government about $22 million.

Now, rotting piles of food no longer are the rule. Replacing them are the neatly sewn bags of wheat, flour and beans arriving—and being delivered—each day through the Food for Peace program.

Since 1975, Egypt has imported about 8.7 million tons of wheat and flour, 276,000 tons of corn, and 1,300 tons of edible beans under the program. In 1981 alone, the PL-480 wheat and flour met more than one-quarter of Egypt's need for wheat, the country's basic food. In cities, every third loaf of bread is made from PL-480 wheat or wheat flour.

AID's "stopgap" programs have gone far beyond Alexandria, contributing heavily to what has been described as Egypt's "new vitality." Raw materials and industrial equipment imported under CIP have helped Egypt's industries meet the average Egyptian's daily needs for soap, canned goods, matches, food and other basic goods. Over half the tinplate used in Egypt's canning industry is provided with AID financing. Tallow imports provide the base for the entire Egyptian laundry industry. The trainload of coking coal seen in the Alexandria port also was purchased through the CIP. Woodpulp, industrial chemicals and scrap metal are a few of the other AID-financed industrial materials. New equipment and technology is giving new life to industry, and the United States is supplying much of it:

- Food processing equipment and automatic bakeries that can produce 6,000 loaves of Egyptian-style bread per hour.
- A rotary hearth furnace, which cuts production costs by 20% in an aluminum plant.
- Air compressors, chain hoists and other equipment to update four cement plants.
- Printing equipment for several Egyptian newspapers.
- Refining equipment for sugar mills.

Both Egyptian and AID officials agree that a strengthened infrastructure is an essential precondition to improving industrial and agricultural production. Therefore, a high priority has been given to restoring and expanding the power, communications and transportation sectors. The CIP, with its ability

In cities, every third loaf of bread is made from PL-480 wheat or flour.

to get quick results, has played the lead role in AID's efforts to help accomplish these tasks.

The eastern shore of the Suez Canal was returned to Egypt in the disengagement talks with Israel following the 1973 war, and President Anwar Sadat wanted to reopen the canal as soon as possible, to earn badly needed foreign exchange. Beginning in late 1974 the United States, Britain and France began helping Egypt clear the channel of mines and sunken ships. On June 5, 1975, the strategic waterway reopened for international traffic. To accomplish that, AID supplied two dredgers, an elevated dry dock, power plant and electrical equipment and firefighting equipment among other items to the Suez Canal Authority. Most important, CIP financed the Vehicle Traffic Management System (VTMS), which is now guiding ships by radar through the channel. The $25 million system, the most advanced in the world, allows more and larger ships to travel this waterway. In October 1981, the Egyptian technicians, who had taken part in training, testing and installing the entire system, took over its control.

AID also played a crucial part in the rebuilding of the Suez Canal cities, supplying construction equipment to rebuild the roads. Now that the original task is completed, the equipment is being used in other parts of Egypt.

The CIP has been perhaps the most visible evidence of a U.S. role in Egypt's economic recovery, even to the commoner on the street. Every day some one million Egyptians ride the 1,600 AID-financed buses. In one of Cairo's main squares, a fully equipped ambulance stands ready for any medical emergency. It is one of 135 ambulances financed by the CIP that make up modern radio-dispatched emergency medical service systems in Cairo and Alexandria.

Early every morning a fleet of 138 garbage trucks and large street sweepers begin their rounds in Cair and the neighboring towns of Giza and Alexandria. The trucks collect trash from over 7,000 trash containers also financed by the CIP. By improving sanitation, AID also is helping improve the people's health.

Over Cairo's rooftops rise 14 towers bringing telephone service to 400,000 customers. Purchased from Raytheon through CIP, a new microwave system has added over 30,000 new circuits and made the service dependable.

Until 1977, CIP loans financed imports only for government ministries and public sector companies. But since then, about 10% has been set aside for the private sector to encourage development of the market economy. By mid-1981, over 250 firms had participated.

The majority of CIP-financed imports have been either large quantities of needed industrial raw materials and food or heavy machinery for industry and infrastructure. But the Ministry of Education also has received a share—albeit small—of the CIP funds.

In the first years of the program, $5 million in loans paid for imported laboratory and office equipment for all 11 Egyptian universities. The equipment included medical, dental, pharmaceutical, scientific and library equipment, such as microscopes, microfilm and small computers.

At the primary and secondary school levels, AID has been able to create entire "education packages" that include material for home economics, social studies and industrial arts, among other areas. AID has contracted with U.S. exporting firms to assemble the required material into the packages which are then individually addressed to schools in Egypt. One firm recently put together 350 sets for woodworking classes. Each package included several types of saws, planes, chisels, hammers, squares and clamps. The social science package has included a world globe, a solar system model, and various area maps, all in Arabic. Plastic models of the human torso, and microscopes are included in the science package.

Railroad cars, trucks, food, dental equipment and education packages all have helped Egypt's economy recover and develop. The CIP and Food for Peace programs are important fast-acting development tools. By financing immediate needs, AID has helped Egypt focus on long-range development problems. The government and its people are determined to see the country grow, so that it can stand on its own. These AID programs have bought Egypt the time to make that happen. ☐

FARMS, FOOD AND GROWTH

Farmers spend hours turning the Archimedes screw to raise water to their fields.

Boosting output is critical to meeting human and economic demand.

Beside an irrigation canal along the east bank of the Nile south of Cairo and near Minya, it's possible to gaze out over acres of sorghum and sugar cane swaying in the light breeze. And on any given day, it's likely that in the distance, a strange contraption, looking like a telephone pole on its side, will be moving slowly across an empty field. Probably, several men will be riding a tractor pulling the contraption and just as likely, they will be listening intently to Erwin Nielsen, agricultural engineer from Colorado State University, explain how to use the machine.

Behind a mud-brick hut near Asyut, a small city down the Nile and farther from Cairo, sorghum, drying in the hot sun, carpets the dusty ground. Once it is dried, women and children will quickly scoop it into straw baskets and carry it to a waiting blue and yellow machine. A farmer will push the grain into the mouth of the machine and it will spit out clouds of grain and chaff. And on any given day, Mohammed Rifaat, area Catholic Relief Services representative, will tell the farmer how the machine works.

Just a few miles away, agricultural credit specialist Phil Brown will be smiling with satisfaction as a man with a sun-dried face and toothless grin happily shakes a local bank manager's hand. A loan agreement consummated, the farmer will be able to buy an irrigation pump he badly needs.

Nielsen, Rifaat and Brown are part of AID's effort to help Egypt boost agricultural output. Whether by introducing new machines and techniques, or by developing new high-yield varieties of grains, or by helping farmers obtain credit, AID is assisting Egypt feed itself, and in the bargain, move its economy forward.

Agriculture has been Egypt's economic base for thousands of years. In fact, agriculture may well have started in Egypt. Recent archaeological studies near Aswan have uncovered evidence of domesticated grains, wheat and barley that possibly date back 18,000 years, predating earliest known crop cultivation in Asia by about 9,000 years.

Understandably, with such a heritage, Egypt's farmers are considered by many agricultural experts to be among the best in the world. In the early 1970s, agriculture accounted for 30% of Egypt's gross national product, for over 50% of all jobs, and until petroleum exports soared in 1977, 80% of Egypt's export earnings.

Despite continued increases in agricultural production, the Egyptian farmer has been hard pressed to keep up with the swelling numbers of mouths to be fed. While agricultural production grew by over 2% each year in the 1970s, population multiplied by at least 3% each year in the same period. That means every year there were over a million more people.

This has more than strained agriculture and the economy. Food has had to be imported. Revenue from exports of agricultural and manufactured goods has not been able to balance the cost of food imports. By the 1970s, 40% of the food Egyptian people needed was being imported. To tip the balance more favorably, more farmland was devoted to food crops. But the result was a decline in cotton, one of the country's main exports. The decline hurt Egypt's foreign exchange earnings. In the meantime the constant pressure of too many people forced cities to encroach upon farmland.

Faced with these overlapping problems, the Egyptian government has made food security a top priority. Simply stated, food security is insurance against an inadequate food supply, provided by a balanced combination of agriculture, imports and reserves. The balance is critical to the country's economic stability. AID is concerned with helping Egypt keep that balance, and since 1975, has supported the government's efforts to boost exports of all kinds and to increase farm production, especially by improving the use of land.

To make the most of Egypt's land, new methods of irrigating, planting and fertilizing, new farm tools, pumps and irrigation pipe are being introduced. Complementing each other's efforts, the Egyptian government has invested in new land development while AID has focused on increasing production of the existing land.

With average yearly rainfall in most of the country virtually nil—eight inches along the Mediterranean coast but zero in parts of Upper Egypt—irrigation is essential to farming. The traditional farmer

Above: Using new methods this farmer produced king-sized onions.

Left: A worker adjusts a machine in a thresher factory.

spends hours raising water from the Nile or from canals by waterwheels. They are operated by animal power or hand. These methods provide water, but they make it extremely difficult to regulate the flow to ensure that the crops get water evenly. Many AID projects are aimed at improving irrigation and water management as necessary prerequisites to increasing production. One AID loan is helping install new irrigation pumps at 34 sites in Middle and Upper Egypt. The new main pumping station will increase the production of over 130,000 acres. And by improving irrigation and therefore farm output, this AID project may raise farm family income by 35% for those who own their land, and up to 55% for those who rent.

For centuries, the yearly flooding of the Nile brought new fertility to the farmland along its banks. But the floods were uncontrolled and sometimes would damage crops, villages and cities. Since 1970, however, the Aswan High Dam, built in the south—from which the Nile flows north to the Mediterranean—has controlled the flood waters and supplied yearlong irrigation to farms in Upper Egypt. The water irrigates about 2.5 million acres, enabling farmers to produce two or three crops a year instead of one. The increased availability of water also has made it possible to cultivate such crops as rice in Upper Egypt. But the absence of an adequate drainage system has resulted in ground waterlogging and increased salinity. To reduce the waterlogging, AID and the World Bank are financing the construction of one of the world's largest drainage systems covering an area of 521,000 acres and benefitting 150,000 farmers. The World Bank is funding installation of polyvinyl chloride (PVC) pipe, field drains, collectors and pumps to drain excess water back to the Nile at a cost of $50 million.

Right: With small loans farmers are able to buy better feed for livestock.

Below: PVC pipe needed for irrigation and drainage.

Better "water spreading" makes for better use of land and water.

AID's $31 million loan has already provided the equipment and technical advice to build three PVC pipe plants in Upper Egypt, now providing pipe that would otherwise have to be imported.

Getting water to and from the fields is only part of improving production. Once there, the water needs to be applied evenly and at appropriate times. Under an AID project and in three pilot areas in the Delta and Upper Egypt, crop production is going up as a result of land leveling, varied irrigation designs, fertilizer schedules and cooperation among the small farmers. By using a local farmer's land for the field test, neighboring farmers can immediately see positive results. Then, often they are willing to apply the new methods to their fields.

"In the first year of the projects," says Nielsen, co-leader of the Minya site, "we identified what was limiting production by testing the soil and water and measuring the amount of water being applied. Soil tests found a complete deficiency of zinc. By adding it, we'll increase crop production by 25%."

Nielsen's team—on contract with AID from Colorado State University—also found that the way water was distributed left little control to the small farmers. The Ministry of Irrigation controls the water flowing from the canal. But AID's installation of a bigger pipe raised the water level and a system of gates controlled the direction to the flow. Then, farmers could manage irrigation of their fields. The gate system requires increased cooperation among neighboring small farmers, most of whom work on less than five acres. So after installing the pipe and gates, the AID project helped organize a small "canal association" of about 30 farmers to schedule the opening and closing of the gates.

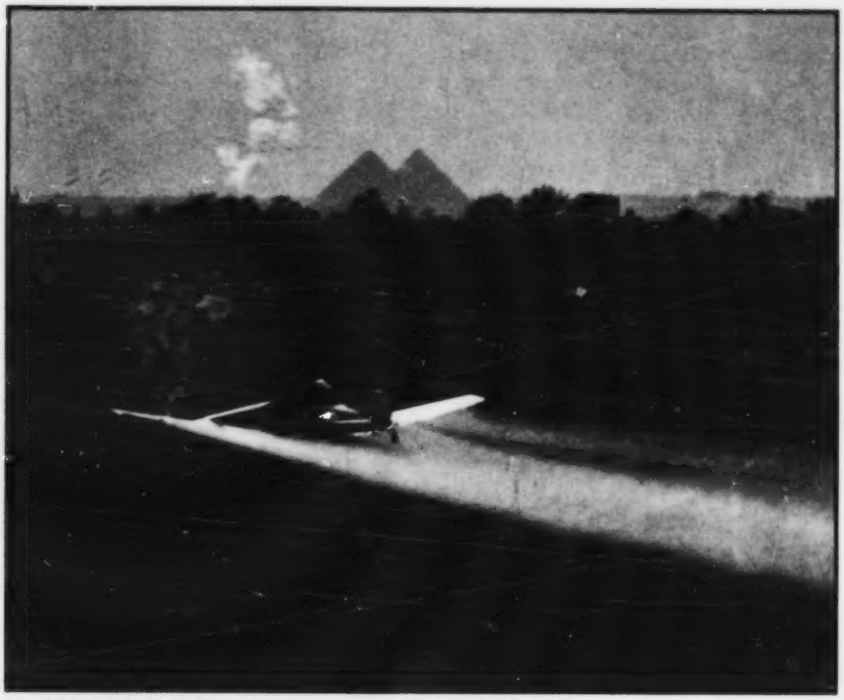
"The farmers were very nervous at the first trial," says Nielsen, "because getting water is a matter of life and death. They simply had to trust us that when it was their turn there would be water." The first trial system was successful and is now being operated by the farmers' association. The AID team is helping set up another association for neighboring farmers.

The Minya site also has introduced new irrigation designs for better "water spreading." Traditionally, the canal water flows into one main ditch or "marwa," then flows into short perpendicular ditches that cut the field into small squares. It was found that water can be distributed more evenly by making long parallel furrows flowing perpendicular to the canal. An added benefit to this design: farm equipment can now move up the long rows, whereas before, their movement was restricted. The project's early tests in corn and broadbean fields also indicate that less water is used.

Another problem has been the difficulty of getting machines and vehicles to and from the fields. "As mechanization increases, an internal road system will have to be created." Nielsen notes. The AID project is experimenting with eliminating every other "meska," or narrow banked path between fields, widening the remaining "meska" for traffic.

The land plane is another part of AID's effort to improve water use and increase crop production. The machine makes the fields level, allowing for an even spread of water. At the Delta site, wheat yields have increased by 42% and cotton is up by 36%, mainly because of leveling, according to Tom Ley, project agricultural engineer.

Appropriate technology—material, machines and methods tailored to a country's special conditions—has boosted production not only through better water management, but also through better ways of harvesting. For example, according to tradition, sorghum is threshed by beating it with long sticks. The process, including winnowing, takes nine man-days an acre. A multicrop



An AID-supplied airplane sprays crops near the pyramids of Giza.

thresher-winnower, such as one developed with Ford Foundation support, can cut that time to 45 to 60 minutes an acre. The first Egyptian machines were produced in a Cairo factory in 1977. Over 60 threshers are already being used. With slight adjustment, the small, diesel-powered machine can be used on rice, wheat, sorghum, barley and lentils. Catholic Relief Services, with AID funding, sells machines to small farmers or groups of farmers allowing three years to pay the less than $2,500 price. By hiring out the machine to other farmers, the small farmers not only can pay for the machine but also can make a profit from their harvest.

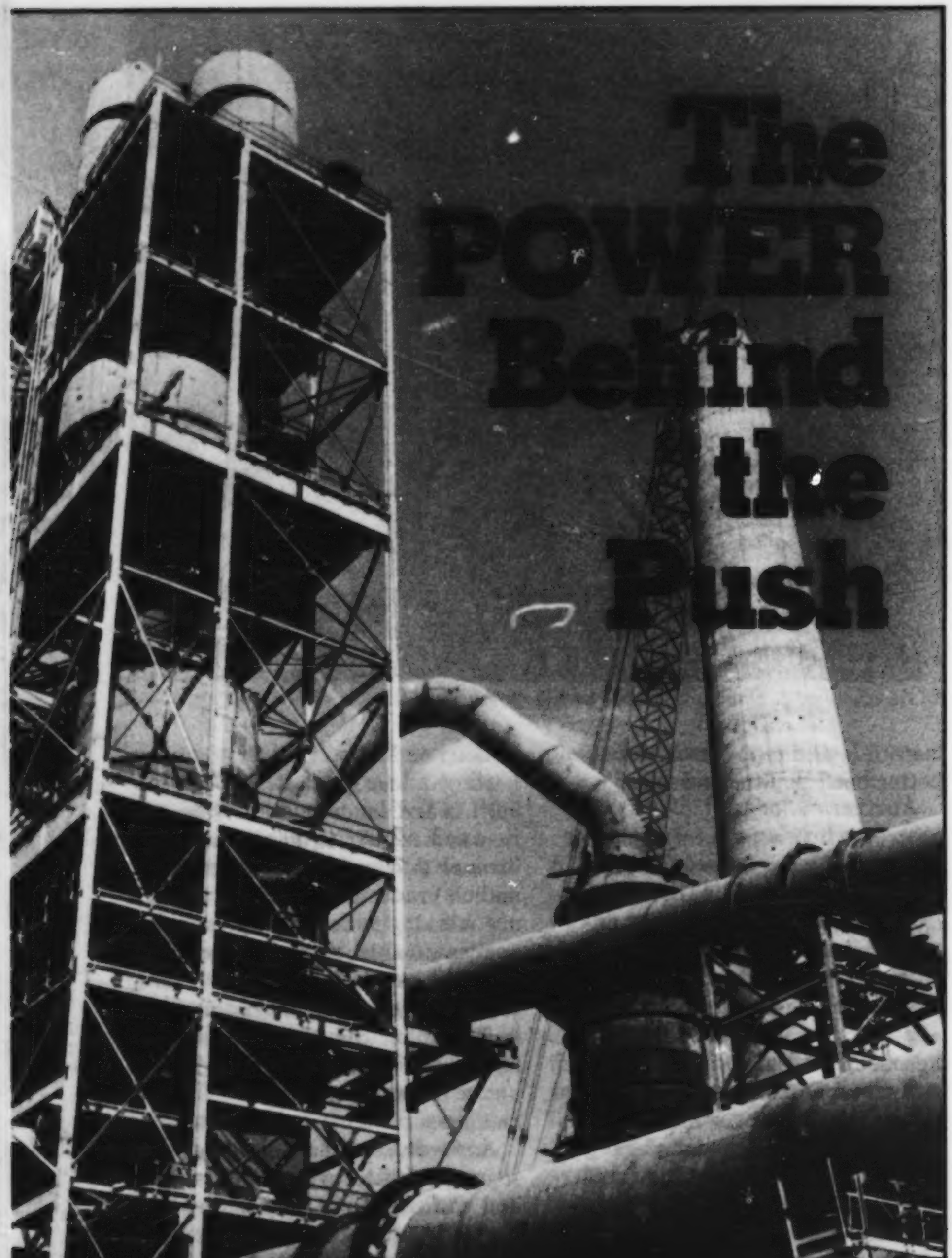
Two years ago a small farmer would have difficulty getting credit to buy machinery or even seed and fertilizer. But now an AID pilot project is making credit available through the village banks. The $25 million grant to Egypt's Principal Bank for Development and Agricultural Credit (PBDAC) is introducing a system that simplifies the loan application procedure, gives more responsibility to the farmer and permits loans on the basis of possible income generation, rather than on collateral. Previously, only landowners could get credit. The small farmer production project emphasizes giving more authority to the 27 village banks, and farmers deciding for themselves what is best. In the past the Ministry of Agriculture decided for the farmer what and when to plant and which seeds and fertilizers to use. Now, the project's participating farmers decide what they need to improve production and the village bank managers decide short-term loans of up to $3,600. The project's loan money became available only in mid-1981, but the strong interest has been increasing ever since. Most loans have been for fertilizer and seed, but in dollars the largest amounts have been in two areas: pumps for irrigation and building materials and feed for producing better beef, poultry and eggs.

Another major part of AID's project is helping the farmer judge for himself what he needs to improve his crop yields. Trained Egyptian extension workers and technical advisers give him advice on fertilizers, seed varieties and pest control, among other things. In addition, the Soil and Water Research Institute of Cairo is doing soil surveys. The use of a corn seed better suited to the soil than the village maize seed has doubled production. At weekly meetings with the Ministry of Agriculture's Agriculture Research Center workers, small farmers talk about pest, disease and weed control problems and how to solve them.

Other AID-sponsored institution-building projects concentrate on improving Egypt's agricultural research centers. To date the lack of seed varieties developed through research to adapt well to Egypt's soil conditions has limited the amount of rice produced; rice is a principal food for Egyptian people. It also has limited growth of wheat, barley and sorghum. The poorly staffed and funded nation-wide research system is being revamped through AID projects. Under a $47 million grant, four research centers are working to develop Egyptian expertise in major cereals. In addition to developing appropriate seed varieties, especially those that are high-yielding, the centers are studying ways of multiplying the seeds, and are testing appropriate machines for cereal production.

Agriculture makes up the largest segment of the Egyptian economy and will continue to, for many years. The country's mild climate and the generosity of the Nile offer tremendous potential for increasing crop yields, not only to meet the need for food, but for exports as well—fruits and vegetables for Europe especially. Through the transfer of technology, by improving extension services, by developing appropriate seed varieties and supplying basic modern equipment to the Egyptian farmer, AID is helping Egypt realize its potential. □

The POWER Behind the Push



Three . . . two . . . one . . . a rumble fills the air, the ground shakes and the towering 70-foot brick smokestack collapses in an explosion of dust.

The Egyptian army corps of engineers is now one step closer to clearing a site for a new power plant at Shoubrah El Kheima, six miles north of Cairo. The task was to demolish what remained of a 1930s plant that had not functioned since the early 1960s. That dilapidated 80 megawatt (MW) plant, now a pile of rubble, will be replaced by a giant 900 MW thermal power plant, to be financed by AID and by other donors.

The new plant is one of several projects underway to help Egypt meet its energy needs. To date, AID has invested over $600 million in improving Egypt's power system. This amount, in the form of loans and grants, is for four new power plants, for replacing worn-out parts in existing power sources and for updating the national power distribution system. The help is badly needed: Egypt's existing power capacity will barely meet the country's needs through next year.

If the country's mounting energy needs are not met, Egypt's social and economic growth will falter. At risk are industrial production and expansion as well as the well-being of families whose households depend on power.

The Shoubrah power plant at 900 MW is the largest being built. It is a $640 million project, and a joint effort by the World Bank, AID and others. AID's $190 million share—a grant—is providing major parts such as turbines, and technical advice. AID has contracted with Overseas Bechtel Inc. for the design and construction schedule. Bechtel also is overseeing the construction, will test the plant's performance and will train Egyptian personnel in its operation and maintenance.

Another U.S.-based firm, Westinghouse, will supply the turbine generators. Natural gas will power the plant itself.

With AID's help, Egypt is meeting its energy needs.

This is a huge plant, and the plan calls for making it fit on the same 10 acres of land where the old plant—less than one-tenth the size—stood. (The remaining three acres of the entire site planned are now under the Nile and must be dredged. They will be used for storage tanks.) "But the real challenge," says the Bechtel representative, "is coordinating all 12 contractors involved so they don't get in each other's way. With such a small area, there just isn't room for stockpiling or for every contractor to lay out construction materials at the same time." Despite the difficulties the tight space has caused, construction is on schedule. The first turbines are to be in place by the end of 1984 and full operation is set for 1986.

Another AID-financed power plant is rising on the shores of the Great Bitter Lake, through which the Suez Canal flows. Also a thermal plant, this one will have a 300 MW capacity and will restore power for the war-damaged Suez Canal cities as well as provide supplementary power for other areas of the country through a national distribution system. The $350 million plant in Ismailia will be fueled by oil or natural gas. AID's consulting engineering firm, Gilbert Assoc., is overseeing the plant's construction. General Electric will supply the turbines in this case.

Gas turbine generators are already turning at Talka, and in Helwan, near Cairo, delivering a total of 300 MW to industrial and residential areas. The $69 million project which covers both areas, is providing power and lighting for factories and homes in Helwan. Originally designed to be a standby source in case of brownouts, both plants have run non-stop from the first just to keep up with demand.

In all, the AID-financed thermal plants in Shoubrah, Ismailia, Helwan and Talka will produce 1,500 MW of electricity, nearly equal to the energy production of the Aswan Dam, Egypt's largest single source of power. In addition, AID has helped Egypt restore and renovate its power distribution systems and older power plants. Over $86 million has gone into new generators, cables, transformers, fuse boxes, circuit breakers and spare parts for Cairo, Alexandria and the Suez Canal cities.

The effort to bring electricity to areas far away from Egypt's cities also has progressed rapidly. Since 1971, almost 2 million rural homes have been electrified for the first time, and this in itself has made life easier for about 10 million Egyptians. By the end of 1983, the goal is to reach 19 million people, or about 75% of the rural population.

Since 1970, the Aswan High Dam, built by the Soviet Union in the late 50s, has produced about half of Egypt's total power. It could do more. As early as a year after the dam began operating, cracks started to appear in the Russian-built turbine runners, the yard-thick mounts holding the giant turbine blades in place. Despite Egyptian efforts to correct the problem with regular welding, cracks are still appearing, and are getting worse. So only 10 of the 12 turbines work at a time. In August 1981, a U.S. Bureau of Reclamation team studying the problem at Egypt's request concluded that the only solution was to replace all 12 runners. AID agreed to finance the replacement; it will be done by Allis-Chalmers, the only U.S. firm capable of designing, testing and fabricating runners of this size. The estimated $100 million project will take seven years.

In the past, Egypt's electrical power distribution was controlled by a manual-voice dispatch system. It is now outdated. Today, Egypt's electrical network consists of almost 2,500 MW of hydropower from two generating stations, and 1,500 MW of thermal power from 13 stations, 24 substations and miles of power lines. There is a significant variation in the amount of power available from the hydropower plants and each year the electrical system grows by 10%. To adequately monitor all of this, a $43 million AID project is constructing a national energy control center with a computerized master control linked to 39 remote terminals. Through these terminals the center will keep track of, and control, the entire national power grid, directing power to points where it is needed.

AID has concentrated on strengthening the country's thermal and hydropower capacity. Beginning this year, AID is also funding a pilot project testing a variety of renewable energy sources such as the sun and wind. The pilot sites throughout the country range from using wind to pump water and generate electricity for a remote village solar systems to providing the heat needed in hatcheries and agricultural drying.

Egyptian officials believe the country will have to triple its power output by the turn of the century to meet escalating demands. That may mean developing a nuclear power capacity. If so, the country will probably have to do so without AID assistance—legislation prohibits AID from providing funds for nuclear power.

But with AID's considerable help in planning, building, renovating and expanding thermal and hydropower plants, and in updating distribution systems, Egypt is well on its way to meeting its energy needs. Assured of a reliable power supply, industries will expand; homes, farms and business will operate lights and machines without worry. Especially in this increasingly technological age, these are crucial achievements in the pursuit of modernization. ☐

STRAINING AT THE SEAMS

Overcrowding has brought cities to the bursting point.

Washing pots in standing water.

The streets of Cairo are bustling with activity.

For the nearly 20 million people crammed into Egypt's cities, the "crush" of a crowd takes on a literal meaning.

The strain of too many people is taking its toll not only on transportation, but on water, sewerage and housing. All systems appear close to collapse. There are new high-rises beginning to change Cairo's skyline, but below, many of the streets are flooded daily because of overflowing sewers and broken water pipes. And in Alexandria and Cairo, the scarcity of housing has caused entire neighborhoods to spring up before any sewerage or water could be put in place. Families, unable to wait, move into unfinished apartment buildings while others sleep on a narrow strip of grass that separates the Nile and the expressways.

The poorest suffer the most. They are forced to set up dwellings in "squatter" towns on the cities' fringes, and there they await the arrival of basic services. This is a situation common throughout the developing world, and it is one to which AID is directing considerable effort here in Egypt as well as in other countries.

For the Egyptian government, housing ranks with solving the food shortage on its list of top priorities. The supply of low-income housing is barely keeping up with population growth country-wide and country-to-city migration has caused an especially severe strain on urban areas. There public housing, usually five-story walk-up buildings, cannot meet the demand.

These public housing units, with rent subsidies ranging from 50% to 90%, have two major drawbacks: They have drained government housing funds, and have not led to private home ownership among lower-income Egyptians as desired. AID is trying to demonstrate an alternative approach to low-income, subsidized housing that would give the government a better return on its investment while at the same time provide basic housing to those who need it. For example, an $80 million AID grant is funding half the cost of building a new low-income community in Helwan, a Cairo suburb. The 7,200 new houses, and the schools, health clinics and other improvements planned will initially benefit about 36,000 people, but that number could go up quickly, since each house is built so that it can easily be converted to a two- or three-story dwelling. The "core" unit contains a kitchen, bathroom with water, electricity and sanitation service. This design will mean that low-income families may buy a home ranging in cost from $2,200 to $5,000. Loan financing for either the purchase or expansion of these houses has been arranged by AID and the Egyptian government through an Egyptian bank, Focier D'Egypt.

In addition, in six neighboring squatter communities around Helwan, new schools, health centers, community centers and water, sewer and electrical needs are being met through the same AID grant. Already, a vocational training center is being built to equip men with the skills needed for construction work.

Trained craftsmen will answer only part of the housing problem. The short supply of building materials, cement in particular, has hampered the industry. For example, most cement has to be imported. But now, two AID-funded cement plants, one near Suez and the other outside Cairo, offer the opportunity to increase domestic cement production by 25%. The cement plant 40 miles south of Suez will go into production in 1983, using up-to-the-minute technology. Newly developed limestone and clay quarries linked to the plant by miles-long conveyor belts, will supply the raw materials needed to produce one million tons of cement a year.

Where there is housing, basic services must follow, if people are to lead reasonably healthy lives. Poor sanitation and inadequate water and sewers have contributed to what is now a low level of health in Egypt. Insufficient pumping capacity, haphazard chlorination and leaking pipes are among the worst problems of the urban water systems. The raw sewage that backs up into houses and streets presents a particularly serious health hazard as well as a major obstacle to further economic development. The goal of AID's principal urban development effort is to improve those water and sewer systems. A $96 million proj-

Broken sewer pipes are common in Egypt's cities, as are the pools of fetid water they create.

ect is restoring war-damaged systems serving about 1 million people in the Suez Canal cities of Port Said, Ismailia and Suez.

Population growth, not war, has devastated Alexandria's waste-water system. There are 2 million residents now; 5 million are expected by the year 2000. The city has been dumping its untreated sewage into the Mediterranean Sea, local canals or the already-dead Lake Maryut. But, with AID funding, the Boston firm of Camp, Dresser and McKee (CDM) has developed a waste water master plan for Alexandria. An initial $87 million in AID money is helping build two primary treatment plants, construct several pumping stations and renovate existing facilities. These are first steps toward putting the master plan into effect.

Ras El Soda, a section of Alexandria, demonstrates both the need for, and the benefits of, proper sewerage at limited cost. This nine-square mile area was originally mined for high-grade sand, but soon it was covered with houses and narrow streets as squatters moved in. Now 110,000 people live there.

The mining had lowered the land level, bringing ground water closer to the surface. This increased the flood potential.

"The sewerage system has private 'cesspits' in front of houses. These 'cesspits' are supposedly emptied regularly by truck," says Al Weitz of CDM in Alexandria. The flooding has caused even this system to break down. Most cities have two separate pipe systems, one for water, the other for sewage. But in Alexandria, the waste water dumps into the sewers, and they cannot handle the burden. Even getting Egyptians to use less water would have little effect, because they use very little as it is. "An average Egyptian consumes about 30 gallons of water a day, compared to the average 200 gallons that Americans use," Weitz said.

Adding further to the flooding problem in this city is the yearly wet season that lasts usually from December through February. During these months, the water sits on top of the ground. The flooding has been known to be so bad that sewage and water combined are knee-deep throughout Ras El Soda. The AID-assisted project is helping to put a stop to it. A new AID-supported system provides for ditches along the streets to collect the overflow water. The ditches

have dried up the streets, and th
has meant that people no longer
have to risk disease by wading
through sewage, and the heavy
machinery needed to finish the
system can now get into the are

While the problems of Helwan
and Alexandria have tested both
American and Egyptian ingenuit
probably the biggest test has co
in trying to help Cairo's poor. Th
city's sewer system, built by the
British in 1910 and expanded in
1930, is in desperate need of
repair.

In some neighborhoods, people
have paved over manhole covers
an attempt to stop the backup.
Other areas flood daily. Initially,

AID is helping rehabilitate sewer systems in Cairo, Alexandria and the Suez Canal cities.

AID funded the clean-up and inspection of over six miles of sewers. It was discovered that 90% of the pipes were clogged with logs, garbage, street litter, sand and even the cooking oil that most Egyptian women use—it is very heavy and congeals like cement in the pipes. The United States and the United Kingdom have agreed to work jointly with the Egyptian government to rebuild and expand the system. One of the steps of what will take 20 years, according to official estimates, will be to train the Cairo Sewerage Authority personnel in maintaining the system.

Besides helping renovate Cairo's sewer system, AID also is helping plant, built in 1903. The plant provides almost a third of central Cairo's drinking water and, under a $61 million AID loan, its output will increase by 80%. To get the water to poorer neighborhoods, AID has funded renovation and installation of about 600 public water taps.

Providing housing, water and sewer systems makes up only a part of the formula for improving the lot of the urban poor. Making adequate health care available to all is another. Clinics and health centers run by the Ministry of Health and various universities now provide free health services. But the services need upgrading. In response to that need, AID is providing $25 million for renovating facilities and for training personnel. In five pilot districts of Cairo, 22 maternal-child health clinics are getting facelifts, nine general health centers are being built and about 2,000 staff members are being trained in better preventative and curative care.

As part of the overall effort, AID's Commodity Import Program has met many important needs, including:

- Emergency medical equipment ($5.96 million) including fully equipped ambulances, central dispatching controls and communications equipment for Cairo and Alexandria.
- Refuse collection ($13.7 million) including 138 garbage trucks, 7,000 trash containers and street sweepers for Cairo, Giza and Alexandria.
- 1,600 buses used by 1 million Egyptians every day.

AID also has encouraged local involvement in its projects. The urban health project emphasizes the use of home visitors. Training curriculums have included 37 courses for community leaders. In still another urban project—this one geared to neighborhoods—AID is encouraging local people to take part in identifying their problems, and in planning and executing the solutions. Neighborhood leaders in demonstration programs in Cairo and Alexandria have decided to concentrate on repairing and maintaining the streets, sewers, water lines, public water taps and on maintaining the streets, and garbage collection.

Despite these achievements, city buses are still dangerously overcrowded, some sewers still back up, and some families can't find decent housing. But with the Egyptian government's concern and dedication to resolving the problems of its cities and with the increasing involvement of community leaders, the outlook is decidedly good. □

They Call It the AMERICAN PROJECT

Grassroots decisions are the goal.

Achmed Kamel proudly leads visitors through the narrow streets in his village in Giza, a governorate outside Cairo that is known for the ancient Pyramids. Shallow ditches dug for the new water pipes line the streets. Kamel, the village leader, points out the many public water taps, and even a few inside homes. At the village wellhouse, the noise of the new diesel pump being tested drowns out the conversation of the workers. "Next week," Kamel declares, "the water will flow!"

In Minya, another "state" in Upper Egypt, a van comes upon smooth pavement, a rarity here, and the passengers wave to the workers on the road and at the adjacent canal. Thanks to the work they are doing, this road, regularly flooded by the canal in the past, will be passable all year now.

In Helmeya, a village in the Nile Delta, there are 27 poultry farms, where there were none just three years ago. The first, set up by the village council, was so successful that villagers decided to copy it. And today, four workers from the original farm work part-time on the others, sharing their acquired knowledge with their neighbors. "The people call this the 'American project,' " explains a local chief executive.

The water system, the road, and the poultry farms are just a part of a bigger "American project"—the country-wide AID effort to help the Egyptian government decentralize. Beginning as far back as the 1952 agrarian reforms, the national government has pursued decentralization—giving more authority to local areas—as a major goal. It is believed that giving villagers a greater stake in their own advancement is an effective way to promote rural development.

The movement began in the 1950s with the introduction of village-level health and social welfare services, cooperatives and government functions. The process continued in the 1970s, with encouragement from a special government group known as the Organization for Reconstruction and Development of the Egyptian Village (ORDEV). In 1975, the "Decentralization Law," Law 52, set up popularly-elected village councils and village administrators with decision-making authority. For the first time, villages were allowed to keep a "special account," made up of revenue earned. This was in sharp contrast to the past, when all profits went to the central government.

The new law enables these local governments to take direct measures to raise the economic level of the villages, and the living standards of the people. This, however, has been a formidable challenge, and a responsibility that is totally new to the local leaders who lack the ability to budget, plan and implement the projects their villages need.

But with technical and capital assistance from AID, local governments—village councils and district leaders—are now learning how.

AID's Basic Village Services project has funded over 2,000 public projects to improve the rural infrastructure—roads, waterworks, small-scale drainage, canals, and some power sources. Begun in 1979 as a Food for Development project (Title III of the Food for Peace Program), the original $75 million project was augmented by a $70 million AID grant in 1980, which helped expand the project's scope to 450 villages in 11 governorates. A major component of the project is training at all levels so that by the end of the project in 1985 the local officials will be able to initiate, plan and execute their own projects. About 1,200 Egyptians will receive training, some of it on-the-job, in basic and technical project administration. The villages choose the projects, submit them to the governorate for review and, once they are approved, prepare the proposal, advertise for bids, evaluate the proposals and award the contract. Once a project begins, the local officials monitor its progress.

The new water system in the village in Giza expanded the existing water system to an additional

Villagers outline projects they want—cattle raising is an example —and receive technical and financial help in carrying them out.

20,000 villagers. An Egyptian contractor laid over two miles of Egyptian-produced pipe, dug the new well, installed several standpipes and fire hydrants, and renovated the pump house—and finished the job about one month ahead of schedule. Beyond the immediate benefits of a reliable and expanded water system, the project's success has given local leaders the ability and incentive to pursue other village improvements. For example, the village is making plans not only to further expand the system but also to improve the drainage in the lower levels of the village.

The road in Minya is another example of the villagers taking the project's original goal one step further. The object was to build an elevated dirt road, but the villagers are going to get it paved, on their own.

Another AID project is helping the village councils increase their revenues by establishing income-generating activities. AID has provided the initial capital to create a Local Development Fund (LDF) from which small loans are made to the village councils for income-generating activities. The profits from any LDF-financed project go into the village's special account. It gives the village a degree of financial autonomy. At the same time, the projects are helping develop skills of the village entrepreneurs and managers.

Among the first LDF loans was one for expanding a publicly owned pickling factory in Fayoum, an oasis 50 miles southwest of Cairo. The factory had been producing well below capacity because of a lack of funds. When the village's executive head proposed that the village borrow $43,000 from the LDF, other council members were apprehensive. They feared the factory might compete with the private sector—the local traders in pickled olives. Also, the village had never before borrowed money or paid interest.

Despite misgivings, the idea was approved. Now 80% of the product is sold in Cairo, allaying fears that local traders would be adversely affected. The revenue raised—about $9,000 in the first year of operation—gives the village an opportunity to do other things—establish new offices for health and social services or build a new youth center, for example.

In Kam El Hagar, a village near the Mediterranean Sea, 21 acres of fallow land have been turned into a profitable fish farm. With financial help from a LDF loan, technical advice from AID contractor, Aquatec International, the fish farm has become very successful. The first year's profits are being used for deepening the ponds. The village also plans to buy ducks for the ponds, which it will sell to further increase its revenues. When asked what he thought were the major benefits of the LDF-financed project, the village leader cited jobs, reasonably priced food and new economic activity.

Throughout the 21 rural governorates, income-generating projects are being financed by the LDF. Just over 200 loans have been awarded totaling $5.5 million. Training in enterprise development, management and finance has been given to several local officials and ORDEV staff members by the AID contractor, the Bluegrass Consortium of Kentucky (made up of Morehead State and Eastern Kentucky universities). In Egypt, some 1,370 people have attended similar training seminars. Moreover, ORDEV is setting up an academy; it is scheduled to open in the fall.

Improving the rural infrastructure and creating new jobs and more local revenue are a few of the ways AID is helping Egypt's rural development. Other AID projects are encouraging small-scale enterprises in the countryside. And training in management, planning and financing assure continued improvements for rural life in Egypt. □

MAKING THE MOST OF PEOPLE

Training and education are the key to developing this essential resource.

I must learn new skills or I will be left behind and my family will suffer. —From Perdita Huston's "Third World Women Speak Out."

A country's most valuable resource may well be its people. Without men and women skilled in business, industry, education, research, health, transportation, the sciences and public administration—all the things that make a country function—any country would be hard pressed to move forward.

Therefore the governments of many developing countries, including Egypt, have made human resource development—in short, making the most of people—a fundamental part of all development efforts. And therefore, training is automatically built into almost all AID-supported programs and projects in Egypt as elsewhere.

A knowledgeable workforce is the key to the process called institution building: the ability not only to formulate but to put into place the programs, policies, procedures and organizations that are essential to sustained, independent growth. To help Egypt accomplish this, AID is working with government officials, and is providing technical advice to private and public companies, universities, financial institutions and health facilities.

For example, an AID grant of $27 million is training Egyptian scientists, technicians and others in agricultural production, hospital administration, health services, nutrition, public administration, civil aviation, navigation and foreign investment promotion and negotiation procedures. Since 1975, over 900 Egyptians have received training at universities throughout the United States and have now returned to Egypt to apply their new abilities. AID also is working with medical schools to upgrade their preparation of future doctors and nurses. A center associated with the University of Alexandria is now training about 240 future doctors each year in planning and managing health and family planning services.

The National Academy of Sciences, as part of a $24 million AID program, is helping the Egyptian Academy for Scientific Research and Technology organize its research. Since 1977, research

Learning foreign languages is essential in many professional jobs.

An agricultural researcher works with an extension agent.

programs have ranged from developing crops for semi-arid lands, to biogas production and wool wax. As part of the program, the Denver Research Institute has conducted several woodshops in Egypt and in the United States on research management, marketing, technical assessment and economics.

A new applied research institute created with AID assistance in association with Cairo University and the Massachusetts Institute of Technology is now helping government ministries design and start projects. For example, recent decisions made by the transportation ministry and Cairo Transport Authority about building and maintaining highways in the Delta, about controlling the traffic flow in Cairo, and about installing nationwide railroad signaling controls were based on research done through the institute.

In addition to projects directed toward research, projects in health, agriculture, housing, and infrastructure—utilities, roads, sewers and the like—all have emphasized one important element: training. Many nurses and doctors from rural and city clinics have taken instruction in family planning including the proper insertion methods for IUDs (intra-uterine devices) and diaphragms. Improper insertions had become a problem: An IUD, if not properly in place, for instance, can at the least negate the contraceptive effect, and at worst perforate the uteris or cause serious infection. Now the doctors and nurses are using AID-provided medical equipment and are receiving clinical experience.

Two training centers for social workers are being established under another AID project. One, in Tanta, third largest city in Egypt, conducts workshops with technical advice from the University of North Carolina in child care and vocational training.

Egyptian women learn to use a loom.

Skilled technicians are needed in almost every field.

To answer Egypt's need for higher farm outputs, AID is helping rebuild Egypt's neglected research institutions, particularly those working in major cereals—maize, wheat, sorghum and barley. Under the $47 million grant program, four research centers have been rehabilitated and expanded and are now offering extension programs in 67 districts. The grant provides for the training of researchers and extension workers specializing in cereals.

In another training project, this one funded by a $5 million AID grant, the International Rice

Research Institute, along with the University of California at Davis and the University of Arkansas, are advising those Egyptian researchers studying rice varieties, agronomy, pest control and mechanization. In the meantime, farmers already are getting assistance from the 20 rice experts trained under this grant.

AID's Small Farmer Production project also has training as a key objective. Agricultural credit specialist Philip Brown is instructing village bankers in bank administration and bank services. Brown believes in learning by doing. So when visiting a bank in a village, he will sit in a corner, saying little, letting the bank manager and the central bank's representatives work together and turn to him only occasionally for technical advice. "I insist on their filling out the forms and making the loans," Brown stresses, "so that when we are gone, they'll know how to do it themselves."

Trucks, cranes, forklifts and buses are among the thousands of pieces of equipment AID has contributed to help rebuild Egypt's economy. But if that machinery is to be kept in working order, the people running and maintaining it must know what they are doing.

A study group at a research institute.

There is a growing need for trained industrial workers.

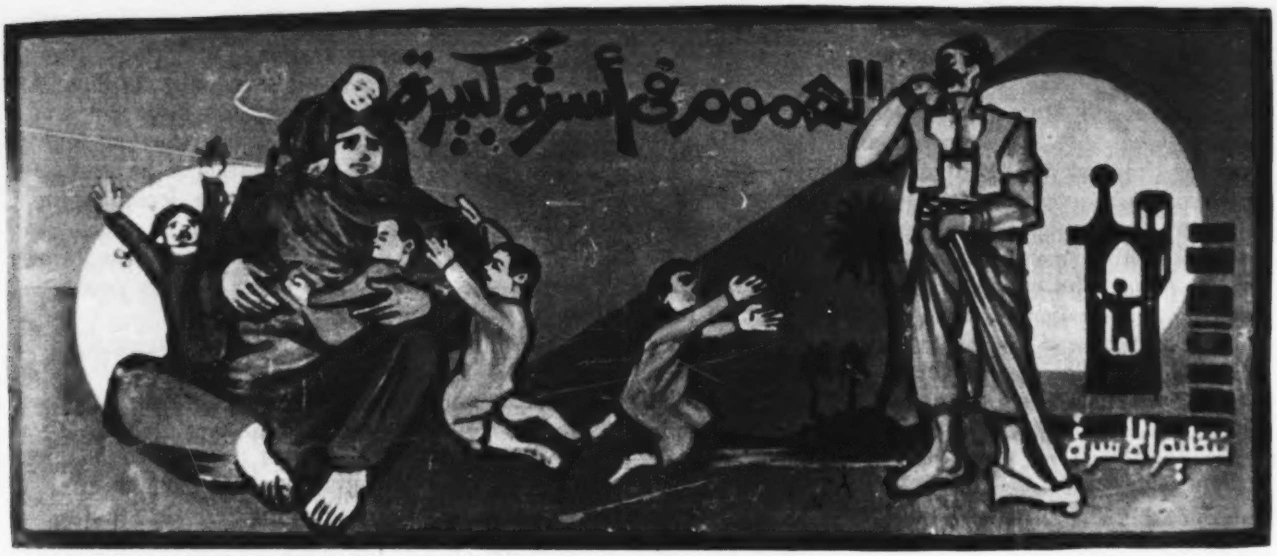
Therefore with each new arrival, Mack, International Harvester, Massey-Ferguson, Chrysler, Ford and General Motors and other suppliers are providing mechanical training. Some companies bring the mechanics and other workers to training centers in the United States, others train in Egypt.

Because the transportation system depends heavily on this new equipment, there is a need for continuing mechanical training. The national transportation labor union and AID are working together under a $4.5 million AID grant to establish a vehicle maintenance training center outside Cairo. The center will have nine classrooms and eight workshops fully equipped for work in wheel alignment, cooling systems, brakes, steering, body work, fuel injection, diesel engines and preventative maintenance. The grant is providing short-term instruction for 22 teachers in U.S. truck maintenance centers and in factory, vocational or technical schools. RCA, the AID contractor, is helping set up the curriculum of the training center.

AID's Commodity Import Program has provided Egypt with modern and complex machinery, entire systems, all of which require skilled handling. Cairo's microwave telephone exchange system, for example, is being installed, expanded and maintained by Egyptian engineers who received initial training in the United States from the equipment supplier, Raytheon. Now, Egypt's telephone company has its own training program in Cairo. "Some of the engineers are so skilled," says Raytheon representative Peter Barker, "that they could work on any telephone system in the world."

Another example of AID's concerted effort to train Egyptians: The Vessel Traffic Management System (VTMS), which guides ships through the Suez Canal using the most technically-advanced navigational equipment in the world. In addition to supplying the equipment, AID has assured its smooth functioning by requiring training throughout the project. After intensive course work at the contractor's headquarters in Long Island, NY, the Egyptian engineers played a part in installing and testing the system, thus learning the intricacies of the equipment. The system is now in full operation with Egyptian personnel.

These are a few examples of AID's efforts to provide training and support institutions necessary for the continued economic development of Egypt. Since 1975, over 2,200 Egyptians have received formal training in the United States and in Third World countries. The training now being given with supplied equipment will add to that number several times. Training centers and research institutes established in Egypt with AID's support will give Egypt the ability to meet its own needs. Under a "Peace Fellowship" program, AID is providing one to two year scholarships for up to 1,900 "potential leaders" in disciplines important to Egypt's economic development. Egyptians are learning the skills they need to make sound decisions affecting their country's future. □



A typical billboard reads: "The worries of a large family."

Every 20 Seconds . . .

The pressures of overpopulation are turning Egyptians to family planning.

Logo: "Family Planning"

Every 20 seconds an Egyptian baby is born; 180 every hour; 4,320 every day.

With every newborn child comes the need for food, clothing, shelter, education, and, eventually jobs and a hope for a better life. But even as Egypt becomes more advanced and better able to meet those ever-increasing needs, the rate at which its babies are being born overtakes its efforts and threatens the whole development process. Population and economic analysts agree: No matter how many houses, factories and schools are built, how many jobs are created or how much food supplies are increased, there will be little change for the better for nearly 17.6 million poverty-stricken Egyptians if the population continues to grow at its current 3%-a-year rate.

As early as 1966, Egyptian government officials recognized the potential danger in ignoring population growth and set up a system to provide family planning services and information. By 1977, at least 15% of the country's married couples were using modern contraceptives.

But to bring population growth down to a level that the nation can sustain will require at least doubling that participation.

AID and the Egyptian government are working together to solve the problem of overpopulation. AID has earmarked $45 million for the effort, and that grant is being used for a variety of projects. One of them is a media campaign to increase public interest and participation in curbing growth. Started in 1977, the campaign has used such themes as "Small families live better," and "Look around you. We have a population problem," and they have appeared on billboards, posters, pamphlets and in newspaper, radio and television advertisements throughout the country. Even in the remotest areas people can find and read newspapers, and about half of all adults can read. For those who cannot, there is a television in almost every village or neighborhood cafe throughout the country, and a radio in nearly every home. Managed by the government's State Information Service with technical assistance from the University of Chicago, the program has introduced a new logo to heighten awareness of the program in both remote and metropolitan areas. The emblem is now familiar; it can be found on posters, in pharmacies and outside rural clinics, and even on tea coasters.

In one animated television commercial used in the campaign, the symbol flies into a peasant's hands. "What's this?" he asks. "Oh, that's 'tanzeen ossra' (family planning)" comes the response.

The result is that now more people understand there is a problem and are willing to help solve it. Consequently, there is a need to make more contraceptives readily available. Telling people where they can obtain those contraceptives is the second phase of the campaign.

In cities, public health clinics, hospitals and commercial outlets, pharmacies and kiosks, for example, sell them, and in the countryside, government hospitals and clinics distribute them. Condoms cost less than 6 cents apiece in pharmacies or 2 cents in government clinics; intrauterine devices (IUDs) sell for $5 to $10 commercially, $1 in government clinics.

A key to the program's success in rural areas is grassroots promotion. Outreach workers, each known as "Ra-ayda" (Pioneer Villager), go house-to-house with contraceptives and family planning information. As part of the media campaign in the countryside, the message, "Do you know your Ra-ayda?" is broadcast over both radio and television. The "Ra-ayda" not only promotes family planning but also offers health and social services.

So important is community-level understanding that family planning promotion has become part of other AID projects. For example, an AID health project is using the traditional midwife—the "Daya"—as a promoter of family planning. It is a logical move. The "Daya" participates in 90% of all births and therefore is both respected and trusted by Egyptian women. By training the "Dayas" in family planning techniques and by giving them supplies of contraceptives, the project aims to increase general understanding and acceptance of the concept.

Grassroots promotion is a key to success.

To extend the family planning program to people in cities, AID is working through a private, voluntary Egyptian association called "Family for the Future." It distributes contraceptives through pharmacies and private doctors. The group promotes family planning by organizing "Ramadan parties," named for the association's director, not the religious observance. At the parties, which take place in factories, universities and government ministries, volunteers lead a full range of discussions on subjects related to family planning. In addition to giving out samples of contraceptives, a doctor or nurse explains the health aspects of different methods. Even how family planning is acceptable under Moslem law is discussed: Islam calls for proper planning of all aspects of life, including family size, participants are told.

The third major part of AID's family planning efforts is training health workers. A field training center has been established to provide public health university graduates and social service workers practical experience in planning and managing family planning services. In addition, each year 240 doctors come to this center for clinical experience in inserting IUDs and diaphragms. Other doctors are similarly training at other centers throughout the country. Without this kind of experience, there would be a higher chance for infections and injuries—perforation of the uterus, for example—resulting from improper techniques.

What effect have these efforts had in slowing Egypt's population growth?

Experts say that during the past few years in which the program has been operating, the rate of growth appears to have stabilized. From 1960 to 1972 the number of births per 1,000 persons declined from 40 to 34, and then from 1972 to 1979, increased again to 39. However, the 1979 figure has held firm since.

"We are cautiously optimistic," says Tom Reese, AID's population director in Cairo.

Encouraging signs are that the awareness campaign has been so successful, the supply of contraceptives, including pills, condoms and IUDs, cannot keep up with demand. AID has provided funds for almost 30 million condoms, 12,000 IUD insertion kits and the raw material for 900,000 oral contraceptives, among other supplies.

Contraceptive use by married couples has risen from 18% in 1979 to about 24% in 1981, Reese points out.

But the success of this campaign does not mean that awareness efforts can be relaxed—quite the contrary, Reese insists. It is essential that the promotional campaign, the training and distributing programs not let up. "You never stop promoting Coca-Cola, do you?" he adds.

In fact, even if the Egyptian government and AID continue to support family planning efforts at current levels, demographers say Egypt's population will increase by 16 million to a total of 60 million by the year 2000. If nothing is done, experts warn, the population will reach 80 million, and that many Egyptians will cripple the country's economic development. ☐

WHAT THE MEDIA SAY...

Italy, land of spaghetti, tortellini and ravioli, is euphoric over its latest concoction: an elaborate new package of foreign aid to help the world's starving millions.

The government has now made support for Third World development a "cardinal point" of its foreign policy. A country which only two years ago gave minimal foreign aid has now budgeted $1.2 billion for this year, $1.7 billion for next, and $2.5 billion for the joint development fund of the OECD (Organization for Economic Cooperation and Development).

—Richard M. Harley
Christian Science Monitor

There are some encouraging bright spots in the 1982 economic picture for our *amigos* in Latin America, despite talk of gloom and doom elsewhere in the world.

True, the boom in some key countries has been slowed and this process may continue for a time, but the region has achieved much more progress than is generally recognized, and will continue a multi-billion dollar customer for this country's products of the farm, industry, ranch, laboratory and technology.

—Ben Meyer
Dallas Morning News

In recent years, American philanthropies have given low priority to foreign assistance and international issues, but a group of key foundations and corporate contributors have now joined to stimulate interest and financial support for these activities.

As a first step they have established Grantmaking International, a loose coalition of business and foundation representatives concerned about expanding the number and effectiveness of grants for international purposes.

The undertaking has the support of influential philanthropies including Ford and Rockefeller foundations, and such major companies as Levi Strauss International and Cummins Engine. It also has attracted philanthropies with special interests such as promoting arms control, curbing population growth and protecting the environment.

—Kathleen Teltsch
New York Times

The first major cooperative project between Egypt and Israel is slated for launching next month, when a 40-acre plot of waterlogged land in the Nile River delta is turned over to Israeli agronomists.

The joint project, which will combine Israeli technology and expertise with Egyptian crops and labor, should be a major step toward alleviating Egypt's food shortage.

—Evans Johnson
New World

The smaller smacks of foreign assistance now being considered by the Reagan Administration may in some instances produce more rapid, equitable development for poorer countries. Recent increases in foreign assistance for agricultural credit illustrate this point.

—Robert C. Vogel and
Dale W. Adams
Wall Street Journal

The international trade system is suffering from a deep, prolonged crisis, and there is a growing danger of protectionism among the chief economic powers. To avoid that peril, the United States must press for far greater reciprocity in the trade and investment policies of other countries.

Reciprocity means a dramatic change from the "most-favored-nation" principle. It means that other countries should provide us with trade and investment opportunities equal . . . to what we offer them . . . .

—U.S. Sen. Robert Dole
(R-KS)
New York Times

Americans always have been a generous people willing to share their good fortune with others in need, including the incredible post-World War II rebuilding of not only friendly countries, but those of former enemies as well.

However, it is understandable that many Americans have become less inclined to support huge foreign aid appropriations at a time when our own country is wracked with serious economic problems and everyone has been asked to tighten their belts.

—Jamestown N.Y.
Post-Journal

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PRIVATE ENTERPRISE:
KEY TO GROWTH

DEVELOPMENT UPDATE

U.S. DEVELOPMENT STRATEGY has been modified to stress participation of the American private sector as an added dimension in the development process. The goal is to strengthen private enterprise in the Third World and thus lay the foundation for continued economic growth.

AID'S Bureau for Private Enterprise is the pivot point for carrying out this development policy. The new bureau may be cast variously as investment broker or facilitator, co-financier, economic policy adviser or, together with the World Bank's International Finance Corp., a builder of capital markets.

To carry out these functions, the bureau will draw on the offices of the Trade and Development Program, the Overseas Private Investment Corp. and its own staff of professionals experienced in investment and capital markets formation.

One of the bureau's two divisions houses the Office of Investment and the Office of Policy and Project Review and Mission Support. The other contrains the Office of Housing and the Office of Business Relations, formerly known as the Office of Small and Disadvantaged Business. These latter two offices bring with them the experience of AID's past involvement with the private sector.

THIRD WORLD SMALL BUSINESS can play a larger role in creating a balanced economy and social development, according to World Bank economist Keith Marsden. Currently, more than half of the developing world's economic output is contributed by small enterprises—those employing up to 100 workers. Trouble is, distorted and overregulated markets prevent them from realizing their full potential. Or, when their governments offer help, it is in ways that are ineffective and hinder growth.

Maximum openness and minimum regulation are the key ingredients to small business growth, Marsden says. He cites South Korea and Taiwan as examples of nations whose relatively undistorted markets allowed small enterprise to make noteworthy contributions to their development. Many of the South Korean and Taiwanese businesses that were small two decades ago have grown right along with their economies to where they now rank as medium and large-scale firms.

FUNDS RAISED FOR WORK in the Third World by private voluntary organizations worldwide increased steadily through the last decade and were pegged at $2.3 billion in 1980—equal to 10% of the world development assistance total, according to the Organization for Economic Co-operation and Development Observer. The largest source of private grants was the United States, followed by Germany and Canada. When analyzed in proportion to gross national product, the U.S. volume falls to fifth place, preceded by Norway, Switzerland, Germany and Sweden.

agenda
agency for international development

Cover: That a healthy and vigorous private sector can be the key to growth, stability and human progress may be one of the great lessons of postwar Third World experience. AID is committed to helping strengthen indigenous private sectors by encouraging U.S. businesses to become involved.

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PRIVATE ENTERPRISE: Key to Third World Growth

This may be one of the great postwar lessons.

by Elise T. W. du Pont
AID Assistant Administrator,
Bureau for Private Enterprise

In early December, the fourth of ten planned investment reconnaissance missions was sent to the Third World as part of a new thrust within the Agency for International Development to involve the U.S. private sector more fully in the essential and exciting work of foreign assistance.

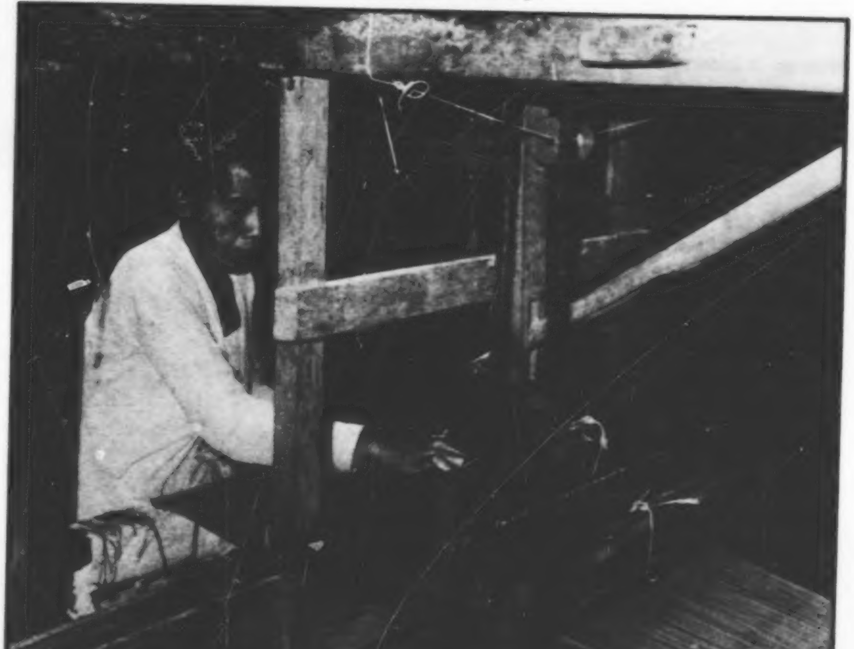
The outlines of this policy direction were sketched by M. Peter McPherson, AID's Administrator, in the April 6, 1981, issue of *Business America*. He pointed out then that the development needs of poorer countries are tremendous—far beyond what we and other nations can provide with limited public funds, although these efforts should continue. Ultimately, he said, the most significant economic development will come from vigorous free markets in goods and services. Here is where AID can play a catalytic and important role.

The establishment in July of the Bureau for Private Enterprise underscored the Reagan Administration's commitment to enlisting the talents and energies of the private sector in development.

Our programs are beginning to gain momentum. Because of necessary budget restraints and limited staff, however, we have targeted 10 countries initially for attention. Significantly, these are countries which have private sectors that, with host government approval, wish to expand. They are, to a large degree, market-oriented.

That a healthy and vigorous private sector can be the key to growth, stability and human progress may be one of the great lessons of postwar Third World experience. Where governments have hampered the private sector with excessive controls, red tape and bureaucracy, enterprise has tended to languish. The subsequent performance of those economies has contrasted sharply with the rapid growth evident in nations that encourage both local and foreign enterprise. At the same time, these nations have

An Indonesian woman operates a loom in a small factory.



A typical street market in Indonesia.

opened up significant trade and investment opportunities for the United States and other countries, developed and developing.

To explore those investment and trade opportunities, our Bureau has sent reconnaissance teams to Indonesia, Sri Lanka, Kenya and Thailand. Following consultations with the governments of Egypt, Pakistan, Thailand, Jamaica, Costa Rica, Kenya, Ivory Coast, and Zimbabwe, we plan to send similar teams to these countries.

Our objective is to help strengthen indigenous private sectors by encouraging the transfer from the U.S. private sector of those things that generate resources and growth—capital, skills, know-how. AID, working with our missions abroad and host governments, will participate in this linkage of the two sectors in a variety of ways—including as matchmaker or as co-financer of joint ventures and other projects, both with institutions such as the World Bank's International Finance Corporation (IFC) and with private sources of investment money.

Boatmen in Indonesia pool labor to dredge a harbor.

We also see our role as adviser, when appropriate, to host governments, identifying bottlenecks to private sector development and helping to build capital markets and promote investment incentive laws. Training, infrastructure and other traditional foreign aid efforts will continue and may dovetail with this effort.

After each mission, this Bureau will seek to put together packages to draw private investment where opportunities lie, working closely with other government agencies such as the Overseas Private Investment Corporation and the Trade and Development Program. The idea is to leverage scarce public money to attract private resources, to stretch the taxpayer's dollar and at the same time stimulate growth and vigor in developing economies.

The IFC provides an excellent example of such leveraging. Since its inception 25 years ago, that organization has made possible the formation of nearly $18.5 billion in total investment with an IFC investment totaling about $4.1 billion—a better than four-to-one ratio.

In pursuing the private sector initiative, this Bureau will be seeking the advice and cooperation of the U.S. business and financial community, and the support of companies, large, small and medium. Necessarily, our program must be limited. We are in the early stages. But we envision an exciting opportunity to stimulate growth in developing nations and help the American private sector be part of that—to do well, while doing good. ☐

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by Maxine Stough

Proving Ground for 'MAGIC OF THE MARKETPLACE'

Through Kingston's harbor flow vital bauxite exports and costly petroleum imports.

Political and economic conditions in Jamaica make it an early proving ground for U.S. policies emphasizing a renewed reliance on the "magic of the marketplace" as an impetus to development.

All the elements are there—government policies that encourage private enterprise and foreign investment and a supporting cast of benefactors that includes AID and its new Bureau for Private Enterprise and the Trade and Development Program, and the Overseas Private Investment Corp., all in close coordination with the Rockefeller Committee.

All the elements are there in Jamaica.

Assistant Administrator Elise du Pont, whose bureau, PRE, has been given the lead in AID's private sector initiative, indicated elements of the Jamaica strategy could well serve as a model for her bureau's efforts in other countries.

The task could hardly be more formidable. Seven years of economic policies under the previous government of Michael Manley ended with the election of Prime Minister Edward Seaga in October 1980. The outgoing government left 27% of the workforce unemployed and a gross domestic product that had dropped 17.7%.

Behind the statistics, grim realities dot the economic land-

scape. External shocks to the Jamaican economy such as steadily increased petroleum prices and a decreased demand on the world market for bauxite, one of the island's chief exports, aggravated an already dismal foreign exchange picture. Factories were running at 40% capacity for lack of foreign exchange to buy raw materials, equipment and spare parts. Investors had deserted a political climate unfriendly to private enterprise. Managerial and technical personnel emigrated, creating a brain drain that posed an added obstacle to growth in the private sector and responsible management—particularly financial management—in the public sector.

Jamaica, like most Caribbean island nations, depends heavily on imports to meet basic needs it cannot supply from its own limited resources. A foreign trade deficit of $750 million in the context of a gross domestic product of about $2.4 billion is a measure of the country's inability to finance its essential imports.

A major reason is energy. In Jamaica, nearly 99% of all commercial energy is generated from imported petroleum. In 1980, nearly one-third of the country's export earnings paid for petroleum, which constituted 25% of the island's imports.

One of the more obvious results of shrinking foreign exchange has been a scarcity of food. Partly because only 44% of the island's arable land is under cultivation, Jamaica imports much of its food. Agriculture production in 1980 slid back to 1974 levels, in part because of a shortage in imported inputs.

AID's response has been to address both the short-term and long-term development needs of the island. Economic Support Fund loans of $40 million in fiscal 1981 and 1982 were drawn to provide Jamaica with foreign exchange to buy raw materials, equipment and spare parts for renewed production, which is essential to long-term solutions.

AID is working closely with the World Bank and the International Monetary Fund in disbursing these funds. Before funds in excess of $5 million can be supplied, Jamaica must provide evidence that it has agreed with the World Bank on the terms of a proposed structural adjustment loan and that it is meeting the conditions related to its economical recovery as contained in its agreement with IMF.

Economic forecasts point to a year-end break with negative growth rates.

In addition to ESF support, Food for Peace loans of $17.1 million last year and a planned $15 million loan in 1982 are helping finance essential food imports for the island. Supermarket shelves that were bare only a year ago are now stocked.

Economic forecasts predict a year-end break with the negative growth pattern of recent years. If the momentum achieved by a recent Overseas Private Investment Corp. investment mission can be maintained, continued and even more impressive growth in the long-term can be expected, say the experts.

Although the majority of the OPIC proposals were in the field of agribusiness, one investor expressed interest in establishing a hotel complex at Rutland Point, Negril. This is particularly significant, given the importance of tourism to the Jamaican economy and the deteriorated state of many of the hotels. AID recently helped assess the condition of hotels and availability of private sector financing to refurbish them.

To help handle an overload of investor response, AID financed consultants to assist the Jamaican National Investment Promotion evaluate proposals and to further train JNIP staff in investment analysis.

Development assistance—$25 million in 1982 and $13.8 million last year—is addressing the medium- and long-range problems in energy, agriculture, manpower planning and training and small business, and is helping facilitate investment, marketing and exporting.

Fuel conservation and the development of alternative energy sources are especially important to the island's recovery. An AID energy assistance loan authorized in August will strengthen Jamaica's capacity to plan and manage energy programs, promote conservation and develop alternative energy.

Meanwhile, a Trade and Development Program coal conversion feasibility study is underway. The project has high priority with the Jamaican government because, although coal would have to be imported and new infrastructure put in place, the long-term foreign exchange savings and benefits to mining and manufacturing would be substantial.

Efforts also are being made to strengthen agriculture. A major agribusiness development project to begin in 1982 is aimed at shoring up existing firms and providing mutually beneficial links between small farmers and agribusiness companies.

Working with AID, U.S. Department of Agriculture made a physical resource availability survey to help national agricultural planning. USDA also assessed investment trade opportunities for agribusiness interests and prepared a guide for prospective investors.

Joint agribusiness ventures also promise to give the island's gross domestic product a boost. The Trade and Development Program recently financed a trip for Jamaican agribusiness people to tour U.S. facilities. They viewed processing, grading, freezing and preparation of fruits and vegetables for export and attended seminars that introduced them to new marketing techniques, equipment and USDA import regulations.

The trip, which cost $18,000, is expected to generate purchase of an estimated $18 million in U.S. goods and services, earn Jamaica $26 million in foreign exchange and provide nearly 10,000 new jobs in Jamaican agribusiness while increasing the food supply in the island markets by 20%.

Capital and investors were not alone in their flight from Jamaica. They were followed closely by managerial and technical personnel. As investment grows, it is likely many of these people will return. But skilled manpower and management know-how remain crucial to an economic take-off.

In light of this, Control Data of Minnesota, a participant of the OPIC mission and Rockefeller Committee, will undertake a major study to determine the training needs of Jamaican businesses and industries. This is the first step to establishing a joint venture to be called Jamaica Opportunity for Business Success (JOBS), involving, in addition to Control Data, Reynolds Metals and Grace Kennedy, a Jamaican firm.

AID is also investing in job training. Short-term Agency consultants, through the Jamaica Institute of Management, developed private sector management training projects. AID plans to continue supporting small, community-based private organizations, such as Operation Friendship, which have proven effective in teaching practical skills. A new AID project will concentrate on providing basic marketable skills for unemployed youth, to be carried out by the private sector, which will help assess skills demand and subsidize apprenticeship programs.

By training investment promotion officers, AID is helping strengthen the management of the Kingston Free Zone with the aim of facilitating increased exports. To further boost the export side of the trade balance, development assistance has financed, through the Jamaica National Export Corp., short-term consultants to conduct seminars for Jamaican enterprises, such as furniture and horticulture, hoping to enter the export market.

Jamaica has opened its economy and arms to the private sector.

Small business is getting a boost thanks to AID's establishment of a national development foundation to supply small entrepreneurs with technical assistance and credit mainly by providing consultants, credit and training to the Jamaican Small Business Association.

As if all its heretofore discussed woes were not enough, Jamaica has the additional problem of a stagnated construction industry. Efforts are being made to relieve institutional and credit constraints by continuing housing investment guarantees, assuring the continued flow of private U.S. capital. In 1982, $15 million in housing investment guarantees will be available to Jamaica through AID's Office of Housing.

Recognizing that a government's policies can either advance or impede sustained economic progress, AID has expressed its willingness to help the Jamaican government formulate policies or restructure institutions that affect private sector investment, productivity and employment. Jamaica already has taken a number of steps to direct its economy toward a private sector and market-oriented approach. Among other things, the government has divested itself of corporations and hotels and has relaxed price controls.

If the full impact of private enterprise's potential contribution to economic development is to be felt, another essential reform will be in the tax structure and practices put in place by Jamaica's former government. AID is providing technical assistance to the Jamaican government to help revise the tax administration to benefit the private sector.

Development experts long have said that Caribbean island nations, with their limited resources and small market sizes, have a choice of three economic models:

- An open, private sector-based economy that takes full advantage of indigenous resources and proximity to the North American market;
- A closed, controlled economy that depends upon subsidies from a wealthier nation;
- Subsistence living.

More than a year ago, Jamaica made its choice and opened its economy and arms to the private sector. Prime Minister Seaga vowed at the time that in three years "we are going to have to be standing on our own two feet." AID, together with scores of U.S. investors and others, is helping Jamaica work toward that day. ☐

Maxine Stough is editor of "Front Lines," AID's internal publication.

FOCUS: THAILAND

A 'reconnaissance' team tests the climate for investment.

by Betty Snead

"We have come as a team to survey the investment climate in your country," Mrs. Elise duPont told Thai government officials and private businessmen.

The AID-sponsored business team —many of its members fresh from record snows in the United States—found the warmth of the Thai reception matching the 88° weather. And the team basked in a balmy, inviting climate for frank and open discussions.

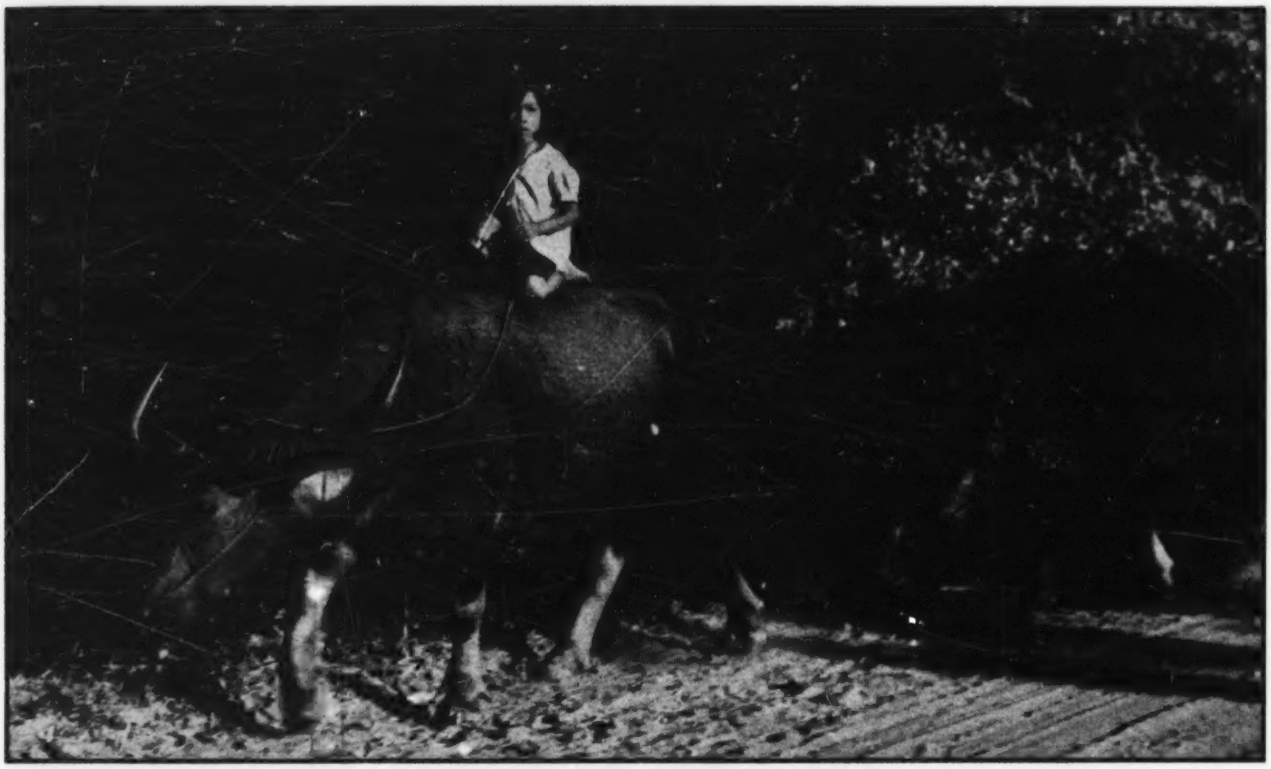
Enthusiasm for the mission was readily evident. Thai and U.S. government officials and private businessmen hailed the trip as historic, bringing U.S. and Thai public and private sectors together for the first time. The mission was the fourth of 10 slated for developing countries.

The Bangkok newspapers announced the visit of the team a week before its arrival. From the mission's start, Feb. 1, to its close, Feb. 5, the team made news daily in the papers, TV and radio.

Thai Prime Minister Prem Tinsulanonda played a major role in the venture. He had visited President Reagan last October seeking American investment for his country. He found that his philosophy coincided with that of President Reagan: The private sector has a major role to play in development. Thailand was quickly added to the list of 10 countries to be visited by the AID-led team.

The team's objectives in Thailand were (1) to determine in what areas the Thai private sector, with U.S. help, could expand or diversify investments that would have a major impact on development (especially in creating jobs); (2) to review with the Thai government changes needed in policies and infrastructure to expand both Thai and U.S. private sector investments; and (3) to identify key opportunities and proposals for private sector investment where AID could facilitate a contribution by the U.S. private sector.

Thailand, with a per capita in-



Part of this little girl's daily routine is taking the family's water buffalo to the canal for a wash.

come of $590, is approaching middle income status. The country has succeeded in bringing down its population growth rate from 3% in 1970 to 2.1%. Isolated rural communities are beginning to receive basic health, education, and agricultural services. Nevertheless, 31% of the population continues to live in poverty—over 90% in rural areas. Agricultural incomes have not kept pace with urban incomes. Agricultural production increases have come largely from additional acreage rather than improved productivity.

Thailand was hard hit by the world-wide recession which followed the oil price rises of 1973. It is facing economic problems common to most developing countries—a deteriorating trade deficit and a high rate of inflation (which has been running 15-20% but which the government expects to bring down to 10% this year). The country's gas reserves may help cut the oil import bill by 15-18% in the next few years. Thailand's mineral potential is largely untapped.

Thailand's extensive resources and skilled labor force are attractive to investors.

The two major problems facing Thailand are the increasing trade deficit and the wide disparity in incomes within Bangkok and between the urban and rural areas.

Thailand's extensive resources and low-cost, yet skilled labor force make it an attractive proposition for foreign investors. However, foreign investment has played a surprisingly small role in Thailand's development to date.

Mrs. duPont stressed that her team's mission was to survey investment potential, not to initiate specific investment projects. If this team found conditions promising, then another team would follow to take action.

"We seek ways to support countries, such as Thailand, in their pursuit of sound economic policies,"

Fishermen at work on the Moon River in Ubol.

Mrs. duPont said. "We want to establish both a strong relationship between the U.S. private sector and the private sector in Thailand and encourage the new partnership that now exists between the Thai government and private sector."

The team—dubbed the AID reconnaissance team—was uniquely composed of specialists whose expertise was specifically requested by the Thai government: in electronics/semiconductors, agro-business, energy and management.

The team was unique also for its members' familiarity and knowledge of Thailand. For example, Margaret Graham, professor of management at Harvard Business School, had studied the Thai language and culture intensely years earlier preparing to serve in the Peace Corps. Other team members included Daniel Hefler, semi-conductor/electronics specialist for Arthur D. Little Co.; Lowell Hoskins, president of Arbor Acres and an agro-industrial specialist; and Tracy Park, vice president, Tenneco Gas Transmission Co., who had been the AID mission director and deputy in Thailand from 1962 to 1966. Ed Cooper, president of the U.S. Chamber of Commerce in Thailand and an official of Chase Manhattan Bank, rounded out the team.

The first day of the mission was directed to orientation and meetings with Thai government officials. The second day found the team meeting with the leading businessmen of the Thai private sector. On the third day, the American Chamber of Commerce briefed the team, and Mrs. duPont addressed the Chamber luncheon, speaking to over 100 U.S. and Thai businessmen. The fourth day found the team members visiting their respective business counterparts throughout Thailand. Mrs. duPont met with the Thai Prime Minister and other officials throughout the day. On the fifth day the team briefed the U.S. ambassador and the Thai government on its initial findings. A press conference arranged by Thai government officials closed the busy five-day schedule. Throughout that period, team members also met with U.N. and other interested parties.

The discussions were friendly and intense. Some opening comments from Thai leaders:

"We very much welcome you," said Snoh Unakul, secretary-general, National Economic Social Development Board, " . . . and would like to stimulate investment in Thailand . . . We are not here because we love foreigners but because of our enlightened self-interest. We need capital, technology, and know-how."

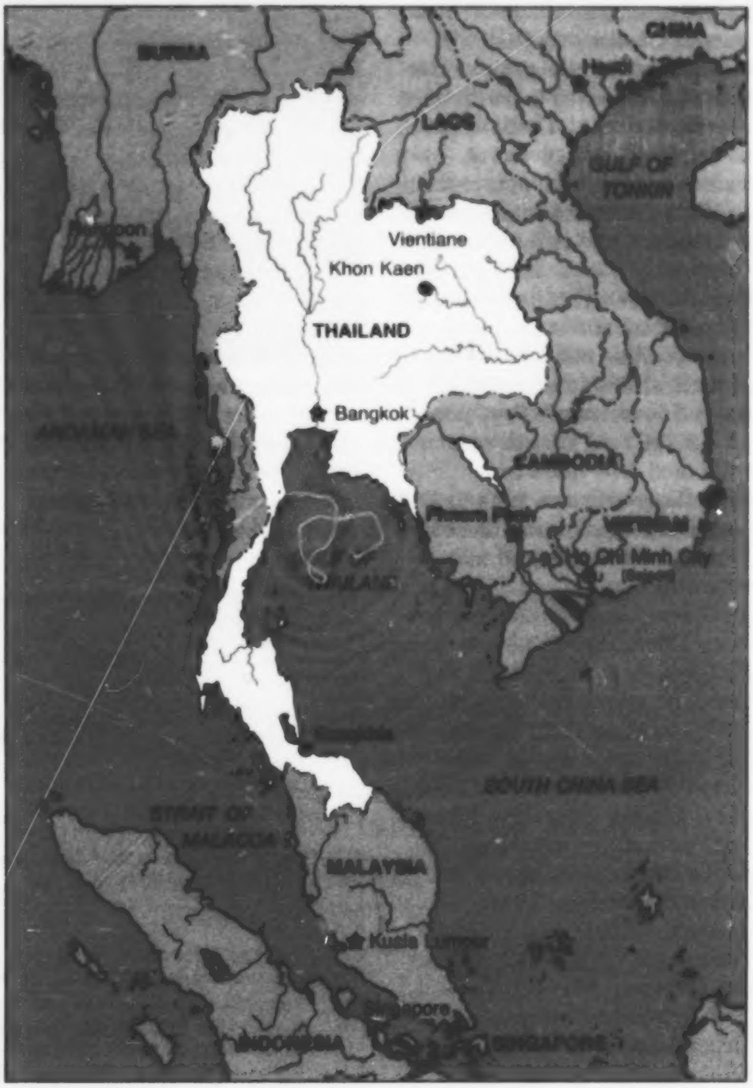
"We will tell you about our weaknesses, strengths . . . incentives/disincentives," said Anand Panyarachun, vice president of the Association of Thai Industries. "We will be candid . . . not hide anything. . . . We have confidence in the Thai government. . . . In the next five years there will be many challenges and opportunities. History has so many missed opportunities. With your help, advice, good will we can make it."

Mrs. duPont responded: "We must not let the opportunity be lost."

The Thais reminded the Americans that the Thai-U.S. relationship has been long and friendly. The first U.S. mission to Thailand was in 1832. Thailand and the United States have had long political and economic relations for many decades. Treaties with Thailand were concluded earlier than with other countries in this region.

"You won't feel as strangers in joining hands with our workforce," Chokchai Absaranan, Association of Thai Industries, told the team. "We have the ability to collaborate with foreigners . . . to accept for-

THAILAND:



Population: 46,655,000 Population growth rate (1979) 2.1%
Per Capita GNP (dollars, 1978) $490
Life Expectancy at birth, in years (1978): 60.2
Adult literacy rate (1970): 79%
Major crop(s):
Subsistence: rice; Cash: corn, cassava
Major agricultural exports (1979): rice, rubber, roots & tubers
Major agricultural imports (1979): cotton, tobacco, wheat
Main trading partners: Japan, United States, Netherlands
Population with reasonable access to safe water supply (1975): 22%
Total U.S. economic assistance to Thailand (FY 1981): $24.2 million

eign investors. . . . Our workers are highly productive, easily trained, and oriented to the industrial work habit."

The lifting of the ban on strikes/lockouts in Thailand in January 1981 has resulted in a more active labor movement. By international standards, however, Thailand remains relatively unaggressive. By such standards, labor costs remain low, with the Bangkok minimum wage being set currently at $2.65 per day.

The investment picture has both bright and dark sides.

On the positive side, the Thais noted their ability to absorb technology and investment. They projected a 6-7% real growth rate over the next five years and credited their optimism to their well-endowed land, newly discovered energy resources and manpower availability.

Investment opportunities in agrobusiness alone offered many possibilities.

"Our land resources are well endowed," Thalerng Thamrongnawasawat, under secretary of state, Ministry of Agriculture and Cooperatives, told the team. But, he continued, "agriculture production is unusually low. . . . We haven't scratched the surface." He acknowledged that "We as a nation took things out (of the soil) without putting them in." He then focused on three related investment opportunities: (1) agriculture inputs—fertilizer, seeds, chemical insecticides; (2) investment needed to compete in commercialization—silos, warehouses, central marketing facilities, transportation; and (3) agro-industries that need developing—canning, marine processing, poultry, slaughterhouses. Pramude Buranasiri, director of the Thai Board of Trade, noted the need for agricultural machinery (tractors and attachments) and crop protection (manufacturing of agricultural chemicals from raw materials locally produced at reasonable prices).

But what of the problems and barriers to investment?

According to the U.S. businessmen in Thailand, the country is undergoing a difficult transition. The slowdown in the major export markets and the resulting trend toward protectionism, together with the rapidly rising costs of petroleum and other imports, are placing strains on the economy. These strains have been exemplified primarily by the worsening balance-of-payments problem and high inflation.

Thai businessmen pointed to such problems as the inability of the government and the private sector to set priorities; red tape in the bureaucracy; "off and on again" price controls; tax laws; and uncertainties over energy policies.

Agriculture Minister Anat Arbhabhirama, who accompanied Thai Prime Minister Prem to the United States, acknowledged there are "lots of constraints." Four major ones:

- Uncertainties in the tax structure.
- Slow decision-making in government.
- Clarification of price control policies. (Thailand has reduced the use of price controls in the past 18 months.)
- A need to clarify energy-use policies for investors. Thailand has substantial natural gas but no clear policies on its use.

The team is in the process—at this writing—of formally reporting to the Thai government how the Bureau for Private Enterprise and/or U.S. companies can help

ON THE AIR A Radio Thailand Special Report

Radio Thailand broadcasts mornings and evenings in English. The broadcasts are carried throughout Thailand and short-wave to other Asian countries.

Each morning at 7:30 a special report broadcast highlights people and events in Thailand. One such report:

The topic for our special report today is the U.S. private sector reconnaissance team to Thailand. The team is led by Mrs. duPont, the Assistant Administrator for the Bureau for Private Enterprise, Agency for International Development.

Q. Could you describe the nature of your visit to Thailand?
A. We have come to Thailand to examine how we might be of assistance to the Thai private sector and how we might help by providing some American assistance in the areas of management training and possibly bringing in American investment.

Q. Could you give us more details about the Bureau for Private Enterprise?
A. The new Bureau for Private Enterprise at AID has been established at the direction of President Reagan to foster private enterprise both in the developing world and to utilize American private enterprise as a facilitator in development.

Q. What do you think of Thailand as investment opportunities for the U.S. private sector?
A. I think that Thailand has a very promising private sector. I think that a number of American firms have already recognized that fact by investing here. I think there are great opportunities for the future and we particularly welcome the Thai initiative led by your Prime Minister last fall to the United States looking for American investors.

Q. What particular areas are you looking at for investment?
A. We have brought to Thailand—at the request of the Royal Thai Government—experts in three major areas—*agro-industry; energy, particularly natural gas and oil; and electronics and semi-conductors.*

development through management training or investment. The bureau is working closely with its allied Trade and Development Program to increase financing of feasibility studies in Thailand for projects likely to lead to U.S. exports or investment. On the day the team left Thailand, an agreement was signed under the Trade and Development Program to provide $250,000 in U.S. assistance to study the feasibility of building an integrated steel mill in southern Thailand. The agreement stipulates that the study must be done by a U.S. firm

While emphasizing the optimism that dominated the mission, Mrs. duPont nevertheless took aim at the barriers to investment in her speech before the Chamber of Commerce:

Elise du Pont

"The private sector, both Thai and American, and the Royal Thai government have a responsibility to identify problems and to take corrective action. For example, there must be a uniform governmental policy toward foreign investment. The government also needs to move more rapidly in the approval and promotion of business ventures.

"The Thai government can make this and any follow-up mission more successful by seriously addressing the constraints to private investment.

"The easy part is now past. When this team reports its recommendations and the Thai government responds, we will be entering both the most difficult and yet rewarding phase. I, for one, am anxious that the Thai and American architects finish their tasks and let the engineers come in and start construction."

Betty Snead is a press officer in AID's Office of Public Affairs.

Q. What do your experts in these fields think about investment here?
A. As you are aware, they are right now in the midst of investigation in these areas. I should add that the Thai government and the Thai private sector have been extremely helpful and cooperative in making available to us resources and information. At this very moment we are compiling a great deal of information in each of these three major areas. In the next day or so we should have information on each one.

Q. How can the private sector come in and help in the international development sector?
A. Of course the views we represent are the views President Reagan feels strongly about. He looks upon private enterprise as the engine for growth in the developing world. We feel as he does that in a free and open market economy where the market forces are allowed to play a full role in a dynamic way then we can see ways in which the American private sector could become involved in the development process and leverage and increase the American assistance and the Thai development process.

Q. Is there any conflict in profit making and development?
A. We feel that making a profit and being involved in development are not incompatible principles. We feel that if an investment can come to your country that generates jobs and that brings in foreign exchange, then this kind of investment can be very productive for the development of the Thai economy.

Q. How do American businessmen regard this country?
A. I think American businessmen are looking on Thailand as a promising resource. I think a number of businesses are looking hard at investment possibilities here and I think there are many opportunities.

Q. You have met American businessmen doing business here. What have you learned from their experiences?
A. American businessmen here are particularly pleased with the new dialogue that has been emerging between the Thai public sector and the Thai private sector. They feel that this is an encouraging step and one that they find very heartening indeed.

Q. What policy will you form about your trip to Thailand?
A. Well, it is really too early to be specific on that score because we are in the midst of looking at the situation here now. We should, however, have an interim report and later a final report which will give policy considerations.

Q. In conclusion, could you give your impression of this country after a short observation?
A. Before we came here—and we came because of the initiative of your prime minister in coming to our country—we looked forward to a Thai welcome and we have not been disappointed. There has been every effort made on the part of both the Thai government and the Thai private sector to make us feel welcome, to make available resources, to provide us with information and we have been very much heartened by this.

MARSHALING SUPPORT FOR DEVELOPMENT

For private enterprise Nigeria represents a potential multi-billion dollar market.

by Stephen Low and George J. Pope

The time is not too far past when the world could be neatly divided into two categories of countries: the developed and the undeveloped. There was really very little in between. But in the last decade we have seen a whole new group of countries emerge in which, either because of their good fortune of possessing high value natural resources or because of skillfully managed economies, a significant improvement in per capita income level has been achieved and a notable importance in the world economic scene assumed. It is clear, however, that although the per capita income level and economic strength of these countries are increasingly significant, large sectors of their economy remain seriously underdeveloped in areas such as transportation and communications infrastructure, social services, and especially in agriculture.

This new group of countries is becoming increasingly important to the United States, because of their growing voice in international forums and because of their economic significance from the point of view of increased trade and investment opportunities. Furthermore, both they and the United States increasingly recognize that if the progress made to date is to be continued and the economic gap continue to be narrowed there must be a significant participation in the development process by the more advanced economies.

Two general observations can be made about the path to further development for this new group of countries. First, their continued success will rest on the openness of their economies to the rest of the world. Unless there is relatively free movement of people, ideas, technology, finance, management, and trade, there is limited prospect for their economies continuing to grow as rapidly as they have in the past. This does not mean that a certain amount of regulation may not be needed, but only that government restrictions and controls slow down development.

Secondly, the magnitude of the task is such that it is unlikely that any government, foreign or domestic, can undertake the job by itself. The experience of the most advanced middle-ranked economies—Korea, Taiwan, Singapore, Mexico, Venezuela, Brazil demonstrates clearly that the burden of further development must fall on the private sector. No government program is of such magnitude that it could undertake a task of this nature. Beyond that, neither the United States nor other developed nations of the world are prepared to undertake significant concessional assistance programs in nations that have achieved significant per capita incomes and balance-of-payments surpluses. Their own economic problems are too great and a donor-recipient relationship becomes inappropriate under the circumstances.

In many of these countries a complete hands-off, laissez faire attitude by the United States will not only result in a slowing of development, but will actually lead to growing recrimination in the North-South economic dialogue. The problem therefore that the United States faces in many parts of the world is how to encourage and support increasing participation in the economic development of nations where an aid relationship is no longer desirable or feasible.

One of the countries in this middle group of developing nations is Nigeria. At the moment U.S. involvement in the Nigerian economy is relatively small. Only 11% of Nigeria's imports come from the United States and total U.S. fixed investment in the country is less than $.5 billion. The exception to this picture of course is the high value of Nigerian oil imported into the United States which in 1980 amounted to over $10 billion.

Nigerians have felt strongly the lack of involvement of U.S. private sector in their economy. They have complained that our only concern has been their oil, that we have had neither the persistence nor the interest to market our goods in Nigeria or to seriously investigate the potential for investment in their economy. This lack of economic concern has been contrasted by many Nigerians with a deep interest of their own in the United States. They considered that our political system could provide a stable structure on which to base their restored democracy, and in 1979 adopted a constitution built on a federal presi-

The staff of the Publicity and Information section at work in the Ministry of Agriculture and Natural Resources.

dential system similar to ours. They have followed an economic system in which private enterprise and initiative is as highly valued as in our own. They have flocked to our educational institutions, becoming the second largest group of foreign students in the United States. In particular, they have admired our ability to produce food, which they recognized as unequaled in the world.

At the same time Nigeria's own rural economy was in sharp decline. From a country that once exported substantial quantities of commercial agricultural products, including peanuts, palm oil and cocoa, and was self-sufficient in food production—although at unacceptably low nutritional levels—the agricultural sector has declined to the point where its exports are limited to modest amounts of cocoa while its annual food import requirements, mostly sugar, wheat, rice, and vegetable oils will soon hit the $2 billion mark. This decline has been characterized by mass migration from rural to urban centers, lack of producer incentives, and general neglect of the agricultural sector. As a result of this situation, Nigeria's new civilian government has placed the revitalization of the agricultural sector, a "Green Revolution," at the top of its list of priorities.

Since bilateral concessional assistance was not available as a tool to facilitate American participation in Nigeria's agricultural development, it seemed clear that something else would have to be found. However, to most American businessmen, Nigeria was unknown and strange, and contained too many perceived obstacles for private enterprise to agree to throw itself into the development process in cooperation with Nigerians.

One approach suggested by the private sector was the formation of a joint business council similar to those in 17 other countries of the world where chief executive officers and leaders of prominent firms in the United States interested in trade and investment join a similar group of local businessmen interested in improved economic relationships. Together, the two councils meet at their own expense, study areas of cooperation, advise governments on policies to encourage cooperation, and help facilitate contacts. These bodies have been specifically and consciously restricted to the private sector, and generally cover a wide range of economic activity.

In Nigeria such a council was proposed by the United States but not accepted by the Nigerians until 1980. The council is in the process of getting itself organized and promises to provide a useful alternative channel to government cooperation.

A second approach discussed by the U.S. and Nigerian governments would promote private joint ventures specifically in agriculture. In view of the successful U.S. experience in producing plentiful food crops by the private sector and the high priority put on such development by the Nigerian government, this seemed a practical and desirable area to start. The two governments decided that cooperation in this area was of such importance that it needed positive and permanent institutional framework to encourage its initiation and successful operation. Furthermore, they felt that the experience of successful agricultural development efforts elsewhere in the world (in India, for example) might be brought to bear in order to avoid the failures and to encourage the successes.

Based on studies and past experience the Nigerian government had come to the firm conclusion that the primary emphasis of the Nigerian Green Revolution must be based on the small-holder farmer. It agreed that there were areas in Nigeria where extensive mechanized farming held promise, but that for the most part if production were to be increased it would be through commercialization of the small-scale farmer. The Green Revolution study further concluded that wherever possible the private sector rather than government institutions could effectively and efficiently provide basic inputs such as seeds, fertilizer, pesticides, etc. It was here that both countries felt private joint venture projects might provide a basis to support commercial development of small farming in

Nigeria. The International Institute of Tropical Agriculture in Ibadan and a number of Nigerian research institutions had already developed disease-resistant, high-producing varieties of maize, cassava, cowpeas, and other crops. But the seeds and propagating stocks were not available commercially. Commercial seed propagation based on this research was clearly needed. In these areas plus the obvious ones of livestock, poultry and food-processing, both countries agreed that there was much room for cooperation. Then in July of 1980, a high-level U.S. delegation traveled to Nigeria for the fifth regular session of bilateral talks between the two countries. Preliminary work had progressed to the stage that an agreement could quickly be put together which provided for technical exchanges in the field of agriculture, and specifically envisaged a Joint Agricultural Consultative Committee (JACC). The committee would be made up of members from both the private and public sector in both countries drawn from agribusiness firms, international banks, foundations, and universities. The two governments would play a coordinative role and provide secretariat support. This joint committee would provide a permanent institutional framework as it worked to explore areas of cooperation and to facilitate the establishment of private joint ventures. As a first step, the U.S. side of the committee commissioned a private agribusiness consulting firm to put together in usable form readily available information on the subject. In January 1981 a two-volume study on potential for investment in agriculture in Nigeria was published. The first volume surveyed the field; and the second contained basic documents needed by an investor contemplating joint private venture in Nigeria. The first 500 copies were quickly snapped up by American agribusiness firms and two more printings of 100 each were run off.

In early March the Nigerian government announced the membership of its side of the committee, chaired by Alhaji Ahmed Joda, a former permanent secretary, minister of information, and prominent farmer. At the same time the Reagan Administration had examined the structure of the newly-formed JACC. The new secretary of agriculture, John Block, pronounced enthusiastic support for the idea; he was joined by assistant secretary of state-designate, Robert Hormats, and assistant secretary-designate for African affairs, Chester Crocker.

On March 4 the American members of the JACC met in Washington with Orville Freeman and the new administration to plan their trip to Nigeria to meet their Nigerian counterparts and to review firsthand the potential of agribusiness investment.

That trip took place in early June as representatives from some 26 American companies met in Lagos with the Nigerian committee. The American companies

Clockwise from left: Inspecting lima beans for resistance to virus; Caring for chicks at the Abakaliki Poultry Farm. Test fields at the IITA; Using modern equipment at a demonstration farm.

covered a wide range of agricultural investment interests, from large-scale crop production, to marketing and processing, and small-scale poultry projects.

The Nigerian members were surprised at how much they learned from the presentations of their own government. Several times the Nigerians were the first to point out the constraints and frustrations caused by unwieldy regulations and bureaucracy.

Both sides agreed to broaden their membership and to provide a preliminary screening of potential joint venture opportunities and partners. And plans were made for a trip to the United States by the Nigerian side to further investigate joint venture opportunities.

The committee agreed upon three specific terms of reference:

- To identify specific agricultural investment opportunities in Nigeria.
- To identify and introduce viable investors.
- To work with the Nigerian government to improve the investment climate in Nigeria.

In September, about 30 Nigerian members of the JACC visited the United States. Meetings were held in Washington with Vice President Bush and other senior government officials followed by visits to agribusiness firms around the country. Extensive side discussions took place during which a number of potential projects were consummated.

Each side of the JACC has held separate interim meetings to discuss future activities, which will include preparation of feasibility studies, identification of projects and matching of potential partners. It is expected that joint meetings will continue to take place on yearly basis, but much of the real work involved is done outside of these sessions.

A recent survey of JACC members attempted to ascertain the value of the initial study and the JACC itself. With 20% of the members responding, a total of eight agribusiness projects valued at $700 million was reported. These projects include food processing/production, grain handling, wheat flour, integrated livestock/poultry, mechanized farming and input supply.

While the JACC cannot take full credit for these projects, the original concept of providing an institutional basis for facilitating and supporting joint venture investments in Nigerian agriculture is proving to be feasible and attainable as both sides readily perceived both the economic and political advantages to each. For the private sector, it opens the door to a multi-billion dollar market. And the positive participation of America in a priority area of Nigerian development demonstrates the serious U.S. purpose in promoting development in a country so important to us. ☐

Stephen Low is the former U.S. Ambassador to Nigeria. George J. Pope is agricultural counselor in the U.S. embassy in Lagos.

THE FAMILY MINIFARM

Solving malnutrition may depend on new ideas about growing food.

by Mitch Salomon

Malnutrition can cripple a chi mentally and physically, a fecting his or her entire life. In Chil it is a terrible and common afflictio for the children of the more tha 200,000 families living in poverty.

The Chilean Nutrition Foundatio (CONIN), a private, non-profit org nization which, in its early year was largely supported by AID, ha been in the forefront of the fight save children from marasmus, severe form of malnutrition. CONIN campaign has concentrated up now on hospitalization and trea ment of infants at more than 3 recovery centers throughout th country. More recently, it has broa ened it focus to include rehabilita ing the family.

It is CONIN's belief that permanent recovery from malnutritio cannot be expected unless the bas environmental and nutritional situation in which the child is livin changes. Without change, malnutr tion will recur.

Funded through AID Operationa Program Grants from 1977 to 197 CONIN recently has developed a action program for helping people a the lowest levels of poverty. Tha program includes as an importan component education and trainin oriented toward satisfying the family's most basic need: adequate provision of fresh food. To accomplis this, CONIN has introduced the family minifarm.

Studies performed with about 5 families during 1977—1980 hav shown that an adequately traine family can produce a significan amount of the food it needs throug the intensive use of the small piec of land next to its house. This piec of land, usually about 90 sq. meters can produce almost one-third of th calories and all of the protein a fam ly of five needs.

The minifarm program is oriente toward the intensive production of wide variety of common leaf an root vegetables. These supply th calories, vitamins and minerals e

Entire families attend classes on minifarming techniques.

sential to good nutrition. The vegetables are sequentially produced with at least two crops a year, thus maintaining a continuing supply. A section of this intensive garden is set aside for raising chickens, a milking goat, and rabbits. In some cases, a beehive may be included. The animals supply the major portion of protein and fats. Each garden will contain a compost pile or pit; the families are encouraged to turn back to the soil all vegetable waste from the kitchen and manure from the animals.

An unusual and practical aspect of the program is the central farm, or core unit, that gives continuing guidance and support to the participating families. The central farm buys supplies for the home gardens and packages seeds, limestone, and fertilizers in units that contain the exact amounts to be used in each garden. In this way they are correctly distributed and used and there is little misuse or waste. The units and their use are based upon recommendations from the Agronomy Department at the University of Chile, which cooperates in testing soils and provides other advisory services to the program. Some vegetables are kept at the central farm nursery until they are fit for transplanting. A demonstration garden and continuous testing of new varieties, management practices and minifarm operations are an integral part of the farm. (A model garden is also developed within the shanty-town location and serves as a teaching aid.)

The central farm gives guidance and support to participating families.

The central farm breeds the rabbits, and the young are distributed to participating families to provide for consumption of one rabbit every two weeks. The varieties of rabbits used now give an average of 7 oz. of meat. Pelts are first processed by the participants in the project, then returned to the central farm for further processing and marketing.

Laying hens are bought yearly and kept on the farm up to the time they start producing eggs. Concentrated feed for hens is bought cooperatively with the families and distributed as needed. At this stage, five to six hens kept by each family will give three to four eggs a day for about 12 months. After that, the hens are cooked and eaten by the families and replaced by new birds.

Dairy goats are kept on the minifarms only during the milking period. The goal is to get about 156 gallons of milk over the 300 days of lactation. Does are sent back to the central farm for breeding and adequate care during partum. Breeder bucks are kept permanently at the central farm.

Overall planning and evaluation of project activities are directed and coordinated by José A. Riumallo, technical director of CONIN. He is assisted by a team including physicians, veterinarians, agronomists, social workers and others. The project director, Patricio Cortese, is responsible for implementing the minifarm program, supervising, and coordinating field work in the different regional areas. In these areas a trained coordinator has the responsibility for the family training program, for technical assistance and for supplying needed materials. Two rural extension agents for each group of 30 families work permanently in the field. Activities other than those directly related to the minifarms, nutrition, sanitation health education and home improvements, for example, are developed by qualified professionals from the Nutrition Recovery Centers. Up to this time the entire program has been planned and operated by Chileans.

Currently about 200 families have taken part in the program

Currently about 200 poor families have volunteered and are participating in the program. It takes 16-18 months to produce a successful vegetable garden. Another six months may be spent in training in animal husbandry. Thus, after 24 months the family—including children—can be managing a complete minifarm. Many more families are eager to enter the program, but limits on resources severely limit expansion of the project.

It is still too early to measure the effects on family life. More data will be needed before it is certain that malnourished children returning from recovery centers will fare well. Fragmentary observations indicate that in a period of 10 months, some of the families produced food equivalent to $500, an amount more than double the income of most participants. Since malnutrition is directly linked to poverty, that improvement in financial status is promising.

Even greater value must be attached to the effect this program will have in changing attitudes of the family groups. It is believed that the natural result will be new expectations and feelings of human dignity and self-esteem among the very poor in Chile—and a positive step in the permanent alleviation of debilitating malnutrition of children. Further, it is expected that the minifarm concept may well serve as a model for other countries where child malnutrition among the very poor is a serious problem. ☐

Mitch Salomon is a soil consultant with the League for International Food Education (L.I.F.E.) and the Rhode Island International Center for Marine Resource Development.

AID is helping governments create a better awareness.

THE POPULATION FACTOR

by James F. Bednar

Jordanian government officials watching the television screen groan in unison as three bars—one yellow, one purple and one green—climb and break through a horizontal blue line. The yellow bar represents a continuation of Jordan's present population growth rate. The purple bar is the growth rate if families average four children. Green represents the growth with three-child families. The blue line is the annual water supply that will be available throughout Jordan for its municipal, industrial and agricultural needs through 2010. The three bars break the blue line as of 1990. Even if the population growth were reduced to the lowest of the three rates, the demand for water will exceed the supply by 43% in the year 2010.

The officials are participating in one of three AID projects designed to create a better awareness of population's impact on development. Each uses a different method and aims at a different audience; AID regional bureaus and missions can pick the most appropriate method for encouraging developing country planners to include the population factor.

Most development experts recognize that high fertility and rapid population growth burden and delay economic and social progress. But it is often difficult for Third World leaders to appreciate the effect of high population growth on their development plans and to convince them of the need to reduce it. In some countries, such as Nepal, all three of the projects are in place. In others, where population planning is in full swing, as in Thailand and the Philippines, the projects support existing population policies.

The first project is known as RAPID—Resources for the Awareness of Population Impact in Development. Through the use of a computer small enough to carry under your arm, presentations can be given to government policymakers who otherwise would not see them. Country-specific analyses are prepared in collaboration with local officials, using data generally used in the country's national planning. RAPID project monitor Judith Seltzer in the Population Office notes that the brief but high-impact presentations attract the attention of top-level policymakers who have limited time or might otherwise have no interest in the population issue.

The five year, $3.9 million project is in its fourth year and includes about 40 analyses in Africa, Asia, Latin America and the Near East. Working with recipient country personnel, the Futures Group—the project's contractor—prepares analyses of a country's basic demographic statistics and their effect on the country's ability to achieve its own development goals. Eight to 10 economic or social sectors, such as the water supply in Jordan's case or urban population growth in Egypt's, are selected. Presentations have been made in Arabic, French, Spanish and Portuguese as well as English. A microcomputer is often left behind so additional presentations can be given by locally trained staff members, another feature of the AID-assisted project.

The success of the project remains to be seen. "We can't say, 'Because of this project, country A adopted a stronger population program,' " Seltzer explains. "The project is really long-term, planting a seed for future planning."

Last June, a series of RAPID presentations were made to high-level officials of Malawi, including Minister Elson Muluzi, the second ranking official. It was the first time the government invited an organization to discuss population and development.

A RAPID presentation also was given to Rwanda President Juvenal Habyarimana, which resulted in his support for a National Population Office. After a series of RAPID presentations in Cameroon, President Ahmadon Ahidjo gave a policy speech on population to the Third Cameroon Nation Union Party Congress.

In Honduras, RAPID presentations were given to the minister of finance and other high-level officials, as well as individuals in private organizations. One private family planning association, in cooperation with the Ministry of Planning, now gives RAPID presentations. RAPID is playing a "critical role in creating a more positive attitude among Honduran leaders about the importance of population in planning," according to a population officer in the Honduras mission.

In Egypt, following a presentation to the late President Anwar Sadat and his wife, plans were made to use the RAPID material in a mass media campaign to raise public awareness of population problems.

Under Egypt's new President Hosni Mubarak, the report continues to take high priority. At a recent economic conference Mubarak ordered copies distributed while calling Egypt's population surge the major problem hindering national development. In addition, Mubarak has called for a special population conference to "investigate the dangers stated in this important report," according to "Al Ahram."

The Jordan mission calls the RAPID presentation to King Hussein a "major breakthrough on population policy leading to the gradual transition in which government and private sector leaders will be informed of the population problem and its health and economic consequences."

At last year's international donor meeting in Zimbabwe attended by Administrator McPherson, a presentation at the conference led to a formal request by Zimbabwe's Census Bureau for a presentation and training on how to use the RAPID analyses.

The project's success has led to several U.S. requests, including one by the State Department's Population Office, to give presentations to new ambassadors appointed to countries included in the project.

AID offices are also looking at the potential of the microcomputer technology for other uses. The Near East Bureau is considering it for analysis of agricultural problems. Jordan's National Planning Council is receiving training and computer equipment to prepare more in-depth sector analysis, such as the effect of population growth on water and agriculture. An analysis of population's impact on fuelwood consumption is also being considered.

The Integrated Population and Development Planning

Government and private sector leaders must become aware of the population problem and its health and economic consequences.

project is a follow-on to RAPID. Project monitor Sarah Simes, also in the Population Office, reports the IPDP project provides expertise and project support to missions and countries to examine in greater detail the relationship between development and changes in population distribution and growth. Helping AID are the Research Triangle Institute, the University of North Carolina, Johns Hopkins University and the Futures Group. One of the results of this project is a regional office set up in Togo to provide technical advice and monitor ongoing projects in Francophone Africa. Another service is training and institution building.

The $4.6 million, five-year project also provides support for research. In Thailand, for example, the government was considering reducing its funds for family planning programs, assuming private family planning groups would continue the program. With IPDP assistance, a Thai technical staff put together a cost-benefit analysis that showed the reduced fertility resulting from the public family planning program. The study also looked at the effect on future government expenditures.

The conclusion:

"The high internal rate of return of 110% makes public spending for the National Family Planning Program an investment opportunity that few others can match in terms of yields."

The Thai government continued funding the public program.

Another IPDP service is training and institution building, especially important in Africa. Besides on-the-job training provided along with technical assistance and research studies, short-term training is provided to key planners.

Whereas the RAPID project concentrates on high-level government officials and IPDP aims at lower-level government and private officials, Population and Development Policy Program, the third project, is aimed at building a population constituency in the private sector through research institutes or foundations. The $3.9 million, three-year project is working in Nigeria, Senegal, Sudan, Togo, Nepal, Jordan, Turkey, Brazil, Haiti and Peru—where the project's contractor, Batelle, identified a leading institute to analyze key population issues important to that country's debate on population policy. The project then helps disseminate the results through seminars and policy papers.

In Peru, the project supported a private social science research organization, which set up two regional conferences on the effect of population on development for local and state officials. The project also is helping Peru's national statistics institute produce a Spanish version of the World Fertility Survey's summary, making the survey's results available to Peru's government planners.

The "action-oriented" projects aimed at improving Third World country policy are helping people in developing and developed countries become more aware of the potential implications of population on development. "These projects do not advocate specific population or family planning policy," Seltzer summarizes, "They simply say 'These are the implications if certain policies are followed.' " Only through such efforts will population become an automatic, integrated part of development planning. ☐

James F. Bednar is a writer-editor on the staff of AID's Office of Public Affairs.

EXTINCTION IS FOREVER

Population growth and economic development are threatening the earth's genetic resources.

by Alexanderina Shuler

Population growth and economic development are reducing biological diversity.

If present trends continue, there is a serious potential for the extinction of plant and animal species on a scale without precedent in history. The warning was made in 1980.

What then has since transpired reverse this alarming trend, which threatens catastrophic consequences for humankind?

Population growth and economic development are making heavy demands on natural resources, causing the loss of genetic resources, especially in the Third World. By reducing biological diversity, humanity is squandering its greatest natural resource, on which it depends for food, oxygen, clean water, energy, building materials, clothes, medicines, psychological well-being and countless other benefits. The narrowing of the genetic base decreases the ability to improve domesticated animal and plant species and diminishes the resource pool of wild species that have potential economic benefit.

The U.S. government, for one, is beginning to examine a whole range of issues relating to global resources and the environment, seeking to improve its information base and its ability to forecast trends and to make more informed policy decisions. The Strategy Conference on Biological Diversity, sponsored in part by AID late last year, is a step in that direction.

The conference, attended by more than 275 representatives of the government, industry, academia, foundations, environmental-conservation groups, international organizations and developing countries, considered steps the United States could pursue domestically and internationally over the next five years to maintain the diversity of the Earth's biological resources, including plants, trees, animals, micro-organisms and aquatic resources. In their review of the magnitude of the problem they also considered economic, social, ecological, political and strategic implications.

The seriousness with which the U.S. government regards the issue was emphasized when James Malone, former assistant secretary of state for oceans and international environmental and scientific affairs, pointed out at the two-day session that "threats to our biological systems are clearly translating into threats to economic and social systems. As biological systems are degraded and undercut, so too are our development investments."

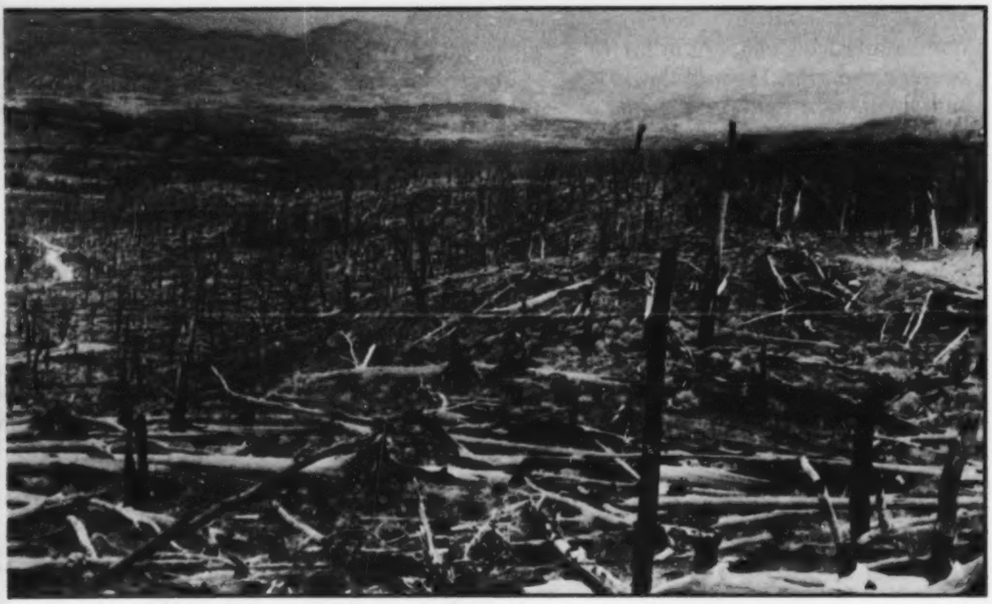
The "stuff of life itself" is how James Buckley, under secretary of state for security assistance, science and technology, described the conference's concern in his opening remarks. He said the 1970s saw an extraordinary expansion of the U.S. public's consciousness of the degree to which it depends on a sound environment, but he also said "we need to impress upon the public that extinction is an act of awesome finality," that future generations have a tremendous stake in what happens in the next few years.

"As living creatures," Buckley said, "the more we understand of biological processes, the more wisely we will be able to manage ourselves." He likened the high rates of extinction to book-burning, "but it is even worse, in that it involves books yet to be deciphered and read."

To convince people, to make them understand, Buckley suggested they be reminded that 40% of all modern drugs have been derived from nature and that most of their food comes from only about 20 of the thousands of plants known to be edible.

The problem is international, the State Department official continued, pointing out that a significant portion of the biological resources requiring the most urgent protection are located in Third World countries that do not have the scientific, technical or financial resources to do the job

When deforestation leads to desertification, there is no hope for animal and plant life.



Overcutting exacts a heavy penalty.

alone. "Protection of plant and animal life can be protected only through international cooperation," he declared.

In addition to facts already known about the irreversible damage that diminishing biological diversity can cause, there are questions that remain unanswered. For example, what is the role, if any, played by the world's plant life on global weather patterns? In other words, what might be the impact of the destruction of Brazilian rain forests on wheat production in Kansas 50 or 100 years from now?

Ecology in action: The ostrich carries in its feathers tiny seeds that will drop and grow.

AID's Nyle Brady, senior assistant administrator for science and technology, agreed that maintaining genetic diversity is an area in which people all over the world have a special interest. "The collective long-term benefits provide the basis for continued human well-being," he said.

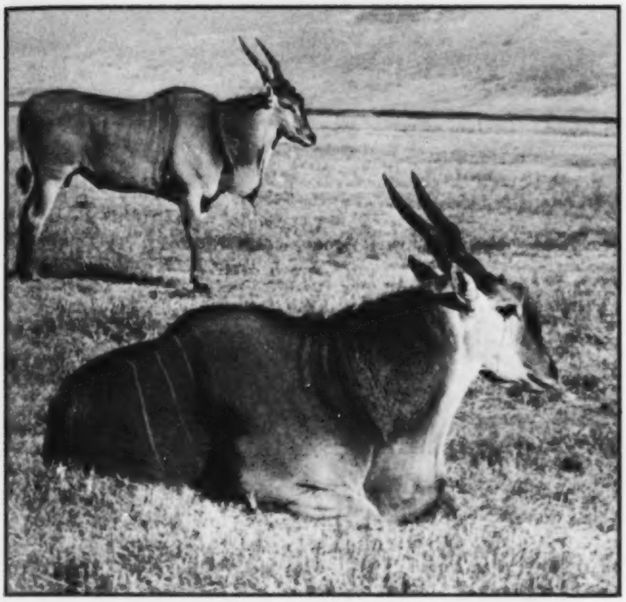
But there are even more tangible economic and scientific benefits, he added, noting that continuing agricultural progress is based on the ability to keep one step ahead of pests, pathogens and climatic change and that in the process, sometimes with the additional advantage of substituting natural products for energy-intensive synthetics.

Even with the best of conservation techniques, Brady said, "plants in remote habitats cannot confer such benefits automatically. It is up to human beings to preserve the Earth's genetic inheritance. Protecting biological diversity and at the same time making use of its rich potential are not necessarily incompatible goals—using need not mean using up."

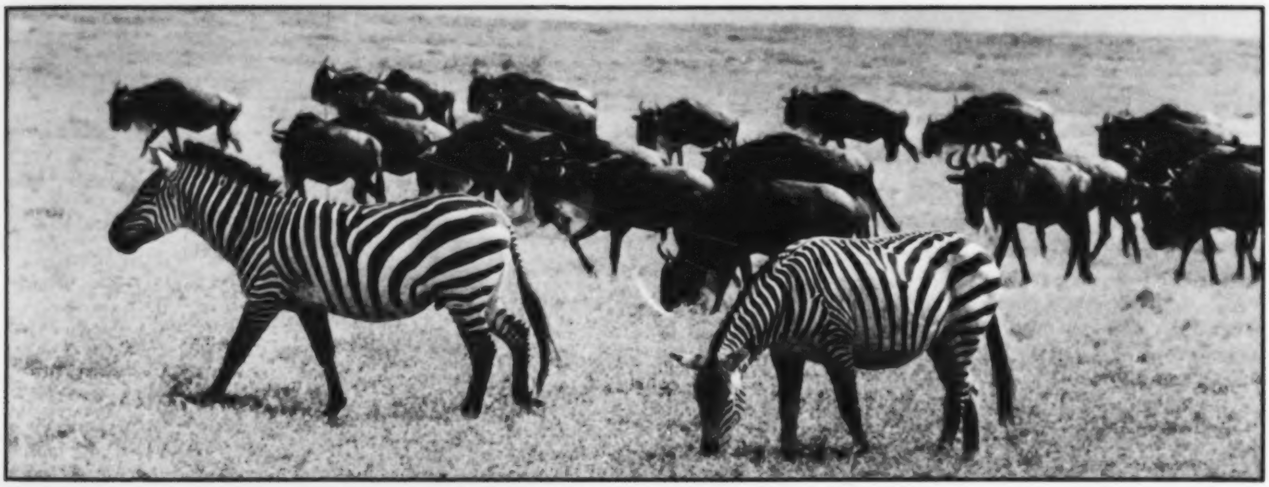
Brady admonished governments, individuals and businesses for capitalizing on nature's assets "for the sake of short-term material gains, turning their back on future environmental costs." He insisted that an acceptable balance between long- and short-term needs, costs and benefits must be found—soon.

The challenge varies from region to region, he said, but there is a common theme—"that there are powerful social and economic forces upon the natural habitat." One of the most urgent problems is in the tropics, where major losses of species are anticipated as population and economic needs expand. While there is what Brady refers t as "mindless development and the reckless pursuit of profit," there is also the lack of alternative means of survival within prevailing economic and social systems.

Seen in this light, the need to preserve biological diversity is a crucial dimension of the develop-



Preserving genetic diversity keeps options open for developing new solutions—high-yield grains, for example.



Wildlife is a precious resource in East Africa, and it is important to the world's environment as well.

ment," Brady said. "If struggle for equitable economic enduring solutions are to be achieved, the scientific and technical aspects of the problem cannot be isolated from these underlying social and economic considerations."

Furthermore, preserving the genetic diversity can enable the human species to keep its options open, to maintain a range of possible responses to changing economic, technical and environmental circumstances, Brady pointed out.

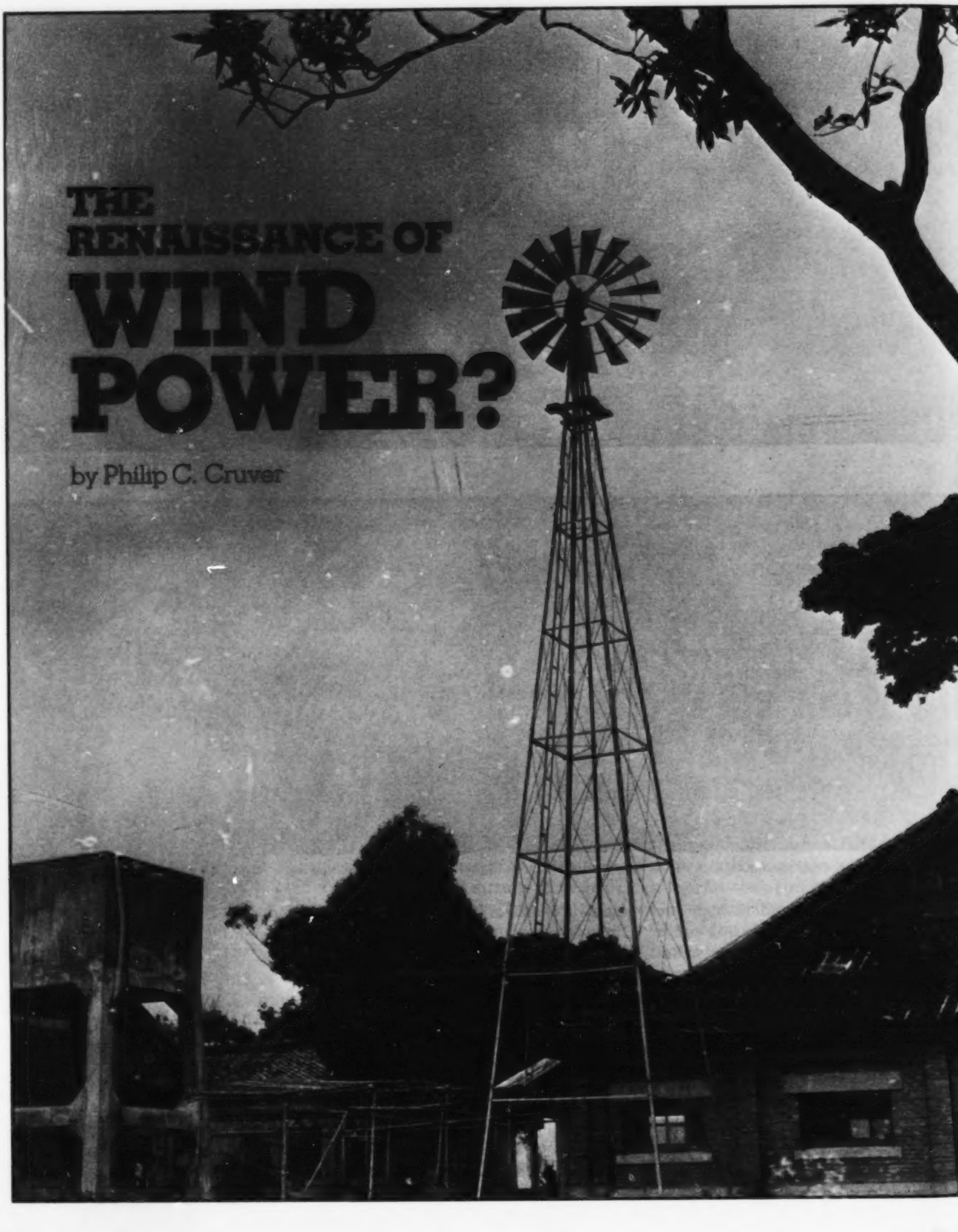
He said tensions between compelling short-term social needs, on one hand, and long-term environmental imperatives, on the other, are inevitable. "But the ways in which these conflicts are resolved will condition the ability of future generations to meet their own survival needs."

Conference proceedings will include recommendations that are to be a part of the government-wide analysis and evaluation on global issues affecting this country being conducted by the Council on Environmental Quality. Additional sponsors of the conference include the State, Agriculture, Commerce and Interior Departments, the Council on Environmental Quality, Smithsonian Institution, National Science Foundation and U.S. Man and the Biosphere Program.

Formerly editor of "Front Lines," Alexanderina Shuler is now with AID's Bureau of Science and Technology.

THE RENAISSANCE OF WIND POWER?

by Philip C. Cruver



Windpower fills this water tank in Thailand.

Not exactly a new idea, windmills may have a few turns left in an energy hungry future.

Windmills look quaint on postcards from the Netherlands. But they also are a potentially important way to supply energy in our modern, power-hungry world. Yet few countries seem to recognize this. Don Quixote made tilting at windmills a classical symbol of futility, and the symbol may be influencing thought today. However, modern engineered wind turbines could become symbols of a clean, self-sustaining, undepletable source of energy.

The rapid increases in the cost of conventional energy understandably have stimulated interest in renewable energy technologies among developing countries as well as highly industrialized countries. The impact of these higher costs on balance of payments and economic growth has been severe. Most countries are taking conservation measures, but they remain insufficient as the push for faster economic growth makes more demands on energy supplies. And, understandably, this situation is particularly conspicuous among developing nations. Therefore, for them, the need to develop domestic energy alternatives has become a major goal.

Wind energy is a rapidly expanding field with far more potential than most people realize, thanks to the ambitious research and development efforts of the 70s.

In fact, the developing countries may exploit the benefits of wind energy before the industrial world does. Several features common to developing countries make that likely. Developing nations, especially island republics, often are more richly endowed with strong winds than their industrialized counterparts. In the Third World, the current high cost of conventional energy, especially electricity, has already made wind energy economically competitive.

Wind is born of solar radiation. All our energy comes from the sun and even the part converted to wind is enough to satisfy all our energy needs, if it could be utilized. Every part of the world receives some wind, and at least 52 local wind systems are extensive enough to have been given names, among them Sirocco, Monsoon, Mistral, Boa, Foehn and Helm.

Two basic meteorological phenomena give rise to the bulk of the world's winds. One large pattern of global air circulation stems from cool polar air being drawn toward the tropics to replace lighter, warmer air that rises and moves toward the poles. Areas of high and low pressure naturally develop and the Earth's rotation causes air to circulate clockwise in the Southern Hemisphere and counterclockwise north of the equator. These broad patterns are responsible for such major weather features as the persistent trade winds in the tropics and the prevailing westerlies in the northern temperate regions. The second cause of extensive winds is the fact that the air over the oceans is not heated as much as the air over land. Coastal winds occur as cool ocean air flows inland to replace the rising warm air.

Wind power isn't exactly a new

idea. So far as we know, windmills were invented in Persia over a millennium ago. Over the centuries, thousands of windmills literally pumped Holland dry. Three or four decades ago, rural homesteads all across the United States used over 6 million windmills to generate electricity as well as pump water for washing and drinking, irrigating cropland, and watering livestock. Remnants of windmills in many developing countries are evidence that sometime in the past they were used as a source of power.

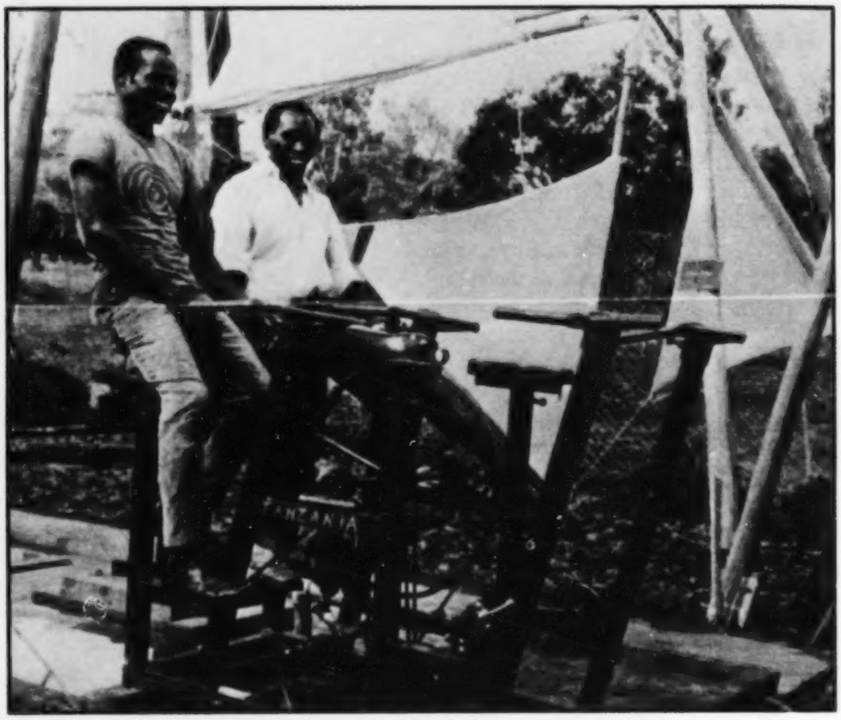
In 1970, Stewart L. Udall, former secretary of the interior, devoted one of his syndicated newspaper columns to windmills. "Windmills are much much more than relics," he wrote. "They are symbols of sanity in a world that is increasingly hooked on machines with an inordinate hunger for fuel and a prodigious capacity to pollute. Ecologically, the windmill is one of the few perfect devices. It harnesses a completely free resource to pump water or generate electricity under conditions that respect the laws and limits of nature."

Harnessing the wind with modern windmills does not add to the thermal pollution of the Earth, and some scientists claim this may ultimately be the most important feature of wind power. Every power plant in the world that burns the fossil fuels, coal or oil, pours out waste heat. Nuclear plants even depend upon boiling water and must dispose of vast amounts of heat to keep the turbines churning out electricity. Some scientists say there is already evidence that thermal pollution is having an effect on the Earth's ecological system. If glaciers are melting, with 80% of the world's ice locked up in Antarctica even a slight increase in world temperature could cause melting and the subsequent flooding of coastal areas.

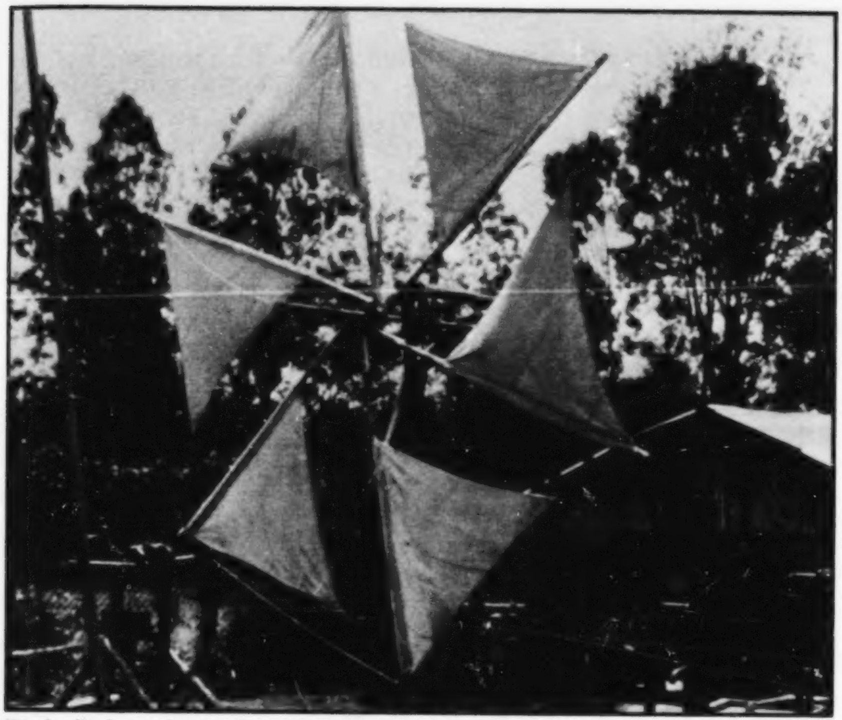
For each doubling of the wind's speed the potential amount of power that can be extracted is increased eight times. As an example, a wind turbine generates twice as much power in a 15 mph wind than in a 12 mph wind. In other words, a little more wind means a lot more power. The power in the wind stream is greater, however than the power that can be extracted from it. Fundamental physics gives the wind turbines a maximum efficiency of about 60%. Further losses occur as the kinetic energy of the wind is converted into mechanical energy of the rotating blades and drive train, then into the electric energy provided by the generator. These losses amount to roughly one-third of the energy potential. In sum, about 40% of the total energy in the wind stream is converted into electric energy. This is high efficiency compared to conventional energy sources such as an oil-fired power plant (12%), a nuclear plant (15%) and a coal-fired power plant (21%).

The U.S. government undertook an accelerated wind energy conversion system (WECS) program during the past few years. Its objective was to stimulate the development of a system capable of producing a significant amount of the U.S. energy needs by the year 2000. To accomplish this, a series of experimental WECS units with power capacity from a few kilowatts to several megawatts were developed. These units have been tested and are now on the verge of mass production and marketing. Worldwide, a large number of firms now manufacture wind machines and about 40 manufacturers in the United States sold between 1,000 and 2,000 of these machines in 1981. Yet not one of these firms produces more than a few hundred machines a year. Manufacturing wind turbines in a modern assembly plant could substantially reduce costs (particularly labor costs) and enhance the economics of wind energy conversion, even without other improvements in the technology.

An interesting concept being developed in the United States is that of a "wind farm." Wind turbines are laid out in clusters and power is fed directly into the utility grid. As power is received from the "wind



Pedal power keeps this windmill moving in Tanzania.



Windmills do not have to be made from expensive materials.

farm," the utility reduces its use of fuel-powered equipment, thereby saving costly oil. Multiple medium-sized wind turbines of less than 100 kilowatts have advantages over a single large megawatt turbine for this application because they can be mass-produced, are less capital-intensive, and are more reliable and cost-effective, and some models can be lowered to the ground for servicing and protection against threatened hurricanes.

Wind turbines used in a "wind farm" do not require expensive storage systems and therefore electricity can be generated in most cases for less than existing conventional methods used in developing countries. Since the fuel for a wind turbine is free and inexhaustible, the cost of the energy produced is based only on the capital cost of the installed unit plus maintenance.

Several other potential applications for wind energy exist. The pumping of water for irrigation and aqueduct systems, farms, public buildings, hotels, condominiums, and small industries provide a significant opportunity for wind energy conversion. There also appears to be a large market for ice making and desalinization in many of the developing countries. Ice making for fish cooperatives and reverse osmosis requires large amounts of costly electricity. Wind energy could appreciably lower this expense.

Data and information on worldwide wind resources exist in various forms. AID has commissioned several recent studies to look into wind energy in specific countries. Many countries have conducted their own studies. Several primary sources of actual wind speed data also are available from government agencies, including the National Climatic Center, the National Center for Atmospheric Research and the U.S. Naval Weather Service. The most comprehensive data base on global wind resources available so far has recently been compiled by Battelle, Pacific Northwest Laboratories for the U.S. Department of Energy.

As a general statement, mean annual wind speeds of greater than 12 mph are needed to generate cost-effective electricity. According to a recent study prepared by the Solar Energy Research Institute, about 50 developing countries have 50% or more land area with mean average wind speeds of 12 mph. These countries should give serious consideration to wind power as an alternate source of energy.

The vast majority of developing countries depend in varying degrees on imported oil for their conventional energy supply. Some countries have the potential to become self-sufficient in conventional energy in the next decade, but others do not, and they could become increasingly dependent on imports unless they develop alternate sources. Of the 92 countries dependent on imports, according to the World Bank, 64 use imports for more than 75% of their commercial supplies.

Various wind energy feasibility studies have been completed, and demonstration projects will emerge soon. AID has financed a five-year, $7.5 million renewable energy program with the 12 member nations of the Caribbean Development Bank. Wind energy has the largest technical budget in this regional program. Also, the Inter-American Development Bank has approved a program to introduce wind energy to the Caribbean, beginning with Barbados.

Nevertheless, successful wind energy demonstration projects will unquestionably create a larger market for the mass production and sale of wind machines.

Someone once said that at the brink of an abyss the only progressive step is a backward one. We know what to expect from wind power. In the view of many, the developing countries can only benefit from the renaissance of wind power. □

Philip C. Cruver is an energy consultant and president of Energy Applications Corporations.

VIEWPOINT

Free Markets and the Generals

Milton Friedman

The adoption of free-market policies by Chile with the blessing and support of the military junta headed by General Pinochet has given rise to the myth that only an authoritarian regime can successfully implement a free-market policy.

The facts are very different. Chile is an exception, not the rule. The military is hierarchical and its personnel are imbued with the tradition that some give and some obey orders: it is organized from top down. A free market is the reverse. It is voluntaristic, authority is dispersed; bargaining, not submission to orders, is its watchword; it is organized from the bottom up.

Military juntas in other South American countries have been as authoritarian in the economic sphere as they have been in politics. So were General Franco and the Greek colonels. Some have introduced free-market elements to meet an economic crisis—but so did Russia in the 1920s with its new economic policy and so has China in recent years. However, to the best of my knowledge, none, with the exception of Chile, has supported a fully free-market economy as a matter of principle.

Chile is an economic miracle. Inflation has been cut from 700% a year in mid-1974 to less than 10% a year. After a difficult transition, the economy boomed, growing an average of about 8% a year from 1976 to 1980. Real wages and employment rose rapidly and unemployment fell. Imports and exports surged after export subsidies were eliminated and tariffs were slashed to a flat 10% (except for temporarily higher rates for most automobiles). Many state enterprises have been denationalized and motor transport and other areas deregulated. A voucher system has been put into effect in elementary and secondary education. Most remarkable of all, a social-security reform has been adopted that permits individuals to choose between participating in the government system or providing for their own retirement privately.

Chile is an even more amazing political miracle. A military regime has supported reforms that reduce sharply the role of the state and replace control from the top with control from the bottom.

This political miracle is the product of an unusual set of circumstances. The chaos produced by the Allende regime that precipitated the military takeover in 1973 discredited central economic control. In an attempt to rectify the situation, the military drew on a comprehensive plan for a free-market economy that had been prepared by a group of young Chilean economists, most, though not all, of whom had studied at the University of Chicago. For the first two years, the so-called "Chicago boys" participated in implementing the plan but only in subordinate positions, and there was little progress in reducing inflation. Somewhat in desperation, the junta turned major responsibility over to the Chicago boys. Fortunately, several of them combined outstanding intellectual and executive ability with the courage of their convictions and a sense of dedication to implementing them—and the economic miracle was on its way.

Chile is currently having serious difficulties—along with much of the rest of the world. And the opposition to the free-market policies that had been largely silenced by success is being given full voice—from both inside and outside the military.

This temporary setback will likely be surmounted. But I predict that the free-market policy will not last unless the military government is replaced by a civilian government dedicated to political liberty—as the junta has announced is its intention. Otherwise, sooner or later—and probably sooner rather than later—economic freedom will succumb to the authoritarian character of the military.

A civilian government, too, might destroy the free-market—after all, Allende was doing so in Chile when he was overthrown by the military. Yet it is no accident that the spread of the free market in the nineteenth century was accompanied by the widening of political liberty and that although politically free societies have moved in the direction of collectivism, none has gone all the way except through the force of arms.

I have long argued that economic freedom is a necessary but not sufficient condition for political freedom. I have become persuaded that this generalization, while true, is misleading unless accompanied by the proposition that political freedom in turn is a necessary condition for the long-term maintenance of economic freedom. ☐

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Winner of the 1976 Nobel Memorial Prize for economics, Milton Friedman is a senior research fellow at Stanford University's Hoover Institution and a professor at the University of Chicago. His column appears regularly in Newsweek.

WHAT THE MEDIA SAY...

Puerto Rico's economic leaders praised President Reagan's plan to provide economic and military aid to the Caribbean and Central America. At the same time they cautioned against being overly optimistic when the program is still under discussion in Congress.

The president of the Puerto Rico Manufacturers Association, one of the more influential private sector entities, said he was "encouraged by President Reagan's speech outlining the Caribbean Basin Initiative" and was certain special steps will be taken to prevent any harm to Puerto Rico's economy while aiding other islands in the Caribbean.

—Journal of Commerce

The Jamaican and United States governments have signed an agreement for supplying 1.6 million metric tons of bauxite to the strategic mineral stockpile. Jamaica will earn $52 million from the sale, and this will shore up the island's depleted earnings from bauxite, following cutbacks in production because of the weak aluminum market.

—Journal of Commerce

President Reagan's Caribbean basin proposal deserves more extended comment and analysis than it got.

The Caribbean proposal is modestly innovative. It is not notably brilliant, or novel, or bold. Only a single paragraph contains even an echo of saber-rattling. The program makes no pretensions toward the historic status of a Marshall Plan. What we have here is a thoughtful, constructive outline for helping our Caribbean neighbors help themselves.

—James J. Kilpatrick
Baltimore Sun

The debate will continue about exactly why Nicaragua is building airfields, multiplying training camps and buying Soviet-made tanks. But that the buildup is going on need no longer be a matter of argument. President Reagan was wise to overrule skittish intelligence officials and release aerial photographs so that everyone can finally examine the tangible evidence for American charges against the leftist revolutionaries in Managua.

—New York Times

The most promising aspect of President Reagan's plan for promoting economic development in the depressed countries of the Caribbean Basin is that it emphasizes private-sector initiatives to stimulate the region's local economies rather than relying on government-financed projects. But the Administration must show discrimination in offering tax incentives to U.S. private investors to avoid encouraging fly-by-night enterprises or unsuitable growth patterns and neglecting whatever strength the indigenous economies possess.

—Business Week

The International Monetary Fund has conceded that loans it made with tough conditions to poor countries in 1978 and 1979 fell short of the desired results "in a lot of cases," leaving "much scope" for improvement in the agency's lending program.

On the other hand, the IMF found that much of the performance shortfall was due to the adverse impact of the second "oil shock" that took place during this period. In any event, the IMF loans had helped the borrowing countries defuse "what were potentially dangerous situations," IMF Managing Director Jacques de Larosiere said.

—Hobart Rowan
Washington Post

World leaders have long been concerned about the politically explosive income gap between the rich and poor nations. Envy and despair in the Third World, they fear, could touch off revolution, chaos and war.

The latest economic research, however, shows that the gap is not so large as previously thought. Moreover, the developing countries have a realistic chance of significantly narrowing the gap with the industrial countries.

—David R. Francis
Christian Science Monitor

Unseasonal rain and snow in large parts of northern India have led to fears that the current wheat crop has been damaged and that the production target of a record 38 million metric tons will not be reached.

This could mean that the target 134 million metric tons of food grain production in 1981-82 will fall short of expectations.

—Journal of Commerce

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AID: BALANCING CRITICAL NEEDS

FACTS ABOUT AID

Agency for International Development
Washington, D.C. 20523

The Agency for International Development administers most of the foreign economic assistance programs of the U.S. government. AID Administrator M. Peter McPherson also serves as the principal adviser to the President and the Secretary of State on international development. AID does not administer foreign military aid.

AID has 5,594 employees, including 2,374 in Washington headquarters and 3,220 overseas, in 71 countries in Africa, Asia, Latin America and the Caribbean, and the Near East.

The purpose of the Agency is to help people in the Third World acquire the knowledge and resources to build the economic, political and social institutions necessary for a better life. AID has programs only in those countries that have requested them. The Reagan Administration regards economic aid as a tool of U.S. foreign policy, essential to the economic, political and security interests of the United States.

AID programs are authorized by Congress under the Foreign Assistance Act. Funds for loans and grants to carry out these programs are appropriated annually by Congress. AID was created in 1961. Most of its U.S. offices are in the State Department building in Washington, DC.

Foreign economic assistance provided by AID fits into two main categories:

- *Development Assistance*, in the form of loans and grants, aims at improving the quality of life of the poorest people in less developed countries, through programs in agriculture; rural development; nutrition; family planning; health; education and human resources; energy; and science and technology. Most of the goods and services used are purchased in the United States.

- *Economic Support Fund* provides loans and grants to selected countries of special political and security interest to the United States. Egypt and Israel are the fund's major recipients. The fund also is used to provide U.S. access to important military and communications facilities. Recipients purchase goods and services from U.S. institutions and firms.

AID's fiscal 1982 budget—$1.8 billion for development aid and $2.6 billion for the Economic Support Fund—reflects the Administration's concern with striking a balance between the need to limit the growth of federal spending and the need to provide an adequate level of economic assistance to achieve important U.S. foreign policy objectives. The $4.4 billion total represents 0.57% of the federal budget for fiscal 1982. The Administration has proposed an additional $350 million in the Economic Support Fund for economic aid to countries in the Caribbean Basin.

In addition, AID works closely with the Department of Agriculture in administering the Food for Peace (Public Law 480) program. Since 1954, this program has combatted hunger and malnutrition; encouraged economic development; promoted U.S. foreign policy; and expanded international trade, including U.S. agricultural products. Funds for this program, except for a small AID-funded staff, come from the Department of Agriculture.

U.S. foreign assistance is aimed at a world in which:

- Average life expectancy is 54 years, compared with 74 in the United States.

- The average annual income for people in the Third World is $543, compared to $8,070 in developed countries.

- Almost a billion people live in absolute poverty.

- More than half a billion people are hungry and malnourished.

- About half of the people do not know how to read.

- Less than 10% of the people have as much clean water as they need.

The United States leads an international effort to alleviate and overcome these problems through programs such as:

- **Private sector development:** AID believes that the surest way to alleviate poverty is through the fostering of private enterprise, which alone can provide the needed jobs. The Agency is acting both to interest U.S. companies in investments in developing countries and to stimulate the growth of private sectors in those countries.

- **Policy changes:** The governments of many developing countries have policies that actually inhibit their economic growth. An example is food prices set at such a low level that farmers have little incentive to grow more. AID is helping these governments realize the need to change such policies.

- **Institution building:** Schools, colleges, training organizations, supportive government ministries and other institutions are necessary to the economic growth of developing countries. Helping build such institutions is one of AID's major thrusts under the Reagan Administration.

- **Technology transfer:** While emergencies may dictate a transfer of resources to developing countries, their greater need is a transfer of the technology to produce their own resources.

For further information, write the Public Inquiries Staff, Office of Public Affairs, Agency for International Development, Washington, DC 20523, or call (202) 632-1850.

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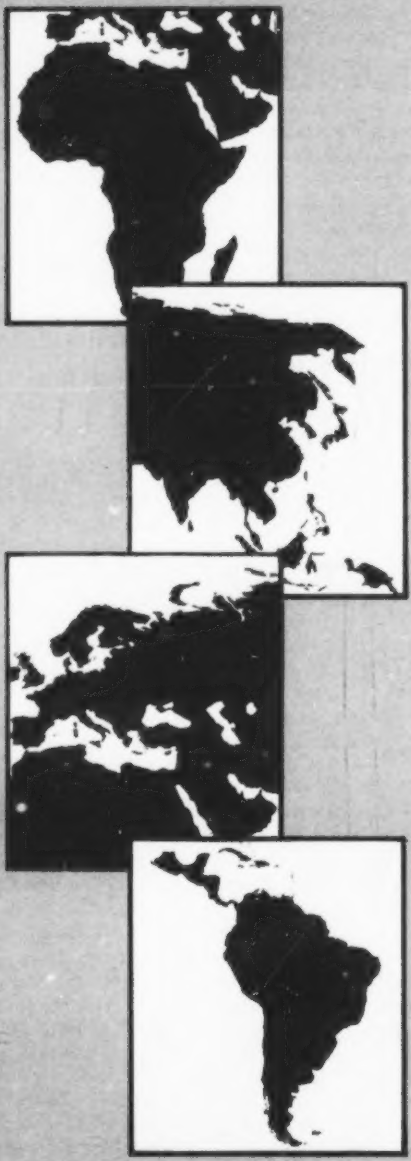

Much progress has been made in the developing world in the past three decades. The United States has played a leading role in that development. This issue of Agenda is devoted to in-depth discussions of the U.S. economic development assistance program for fiscal 1983.

Photo credits: Michael Evans, p. 2; World Bank, p. 8; United Nations, p. 15; AID, all others.

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This is the last issue of Agenda. AID's Office of Public Affairs thanks its readers for their loyal support. We have taken a look at our publication in the light of a recent readership survey and the Administration's determination to use your tax dollars more efficiently. Our evaluation has indicated that we need more insight into the types of readers on our mailing lists to assure that what we publish is useful to you. You may already have received a communication from us. We urge you to fill out the brief questionnaire and return it to us.

This issue of Agenda outlines AID's program for fiscal 1983, as presented to Congress by the Agency's top officials. The articles are excerpts from Congressional testimony, and offer the reader an overview of the state of international development.

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In early March President Reagan submitted to Congress a bold new plan. It was called the Caribbean Basin Initiative. Emphasizing economic health as one of the keys to the future security of the Caribbean region, the President outlined his intentions to strengthen economically troubled nations in Central America and the Caribbean through a package that incorporates trade, aid and investments.

The plan represents a significant commitment to a multilateral conceived effort designed to bring stability to a region beset by economic difficulties.

While the backbone of the U.S. program is an unprecedented offer of one-way free trade with the region, economic assistance will play an important role.

In addition to asking Congress for authority to eliminate duties for imports from the Basin, the President requested a fiscal 1982 Economic Support Fund (ESF) supplemental appropriation of $350 million for countries in the region that are particularly hard-hit economically.

Many Basin countries are now facing an acute liquidity crisis. They have been seriously affected by the escalating cost of imported oil and declining prices for the major exports. This has exacerbated their traditional structural problems and caused serious inflation, high unemployment, enormous balance-of-payments problems and a liquidity crisis. Following are excerpts from testimony delivered by President Reagan and AID Administrator M. Peter McPherson.

CARIBBEAN BASIN INITIATIVE

Trade, aid and investment are the backbone of the U.S. program.

A message from President Ronald Reagan

The economic, political and security challenges in the Caribbean Basin are formidable. Our neighbors need time to develop representative and responsive institutions, which are the guarantors of democracy and justice that freedom's foes seek to stamp out. They need to defend themselves against attempts by externally supported minorities to impose an alien, hostile and unworkable system upon them. The alternative is further expansion of political violence from the extreme left and the extreme right, resulting in the imposition of dictatorships and—inevitably more economic decline, and more human suffering and dislocation.

The (economic) crisis facing most of the Basin countries is real and acute. Deteriorating trade opportunities, worldwide recession, mounting debt burdens, growing unemployment and deep-seated structural problems are having a catastrophic impact throughout the region. This economic disaster is consuming our neighbors' money reserves and credit, forcing thousands of people to emigrate, and shaking even the most established democracies.

This is not a crisis which we can afford to ignore. The people of the Caribbean Basin are our neighbors. Their well-being and security are in our own vital interest. Simple proximity gives to events occurring in the Caribbean Basin the power to touch our lives in profound and dramatic ways. The migrants in our midst are a vivid reminder of the closeness of this problem to all of us.

The program I am presenting . . . is designed to improve the lives of the peoples of the Caribbean Basin by enabling them to earn their own way. It will help revitalize the economies of this strategically critical region by attacking the underlying causes of economic stagnation. Most significantly, it helps expand economic opportunities for the people of the Caribbean Basin so as to make possible the achievement of a lasting political and social tranquility based on freedom and justice.

I want to emphasize that this program is not an end in itself. What we seek in the final analysis is to help the people in the Basin build for themselves a better life, not just economically but across the full spectrum of human needs and aspirations. History, and particularly the history of this hemisphere, has shown that a pluralistic society with strong and free private institutions is our best hope in moving toward that ultimate goal.

Churches, free trade unions, business, professional and other voluntary associations, and an independent press are key among such institutions. In administering this economic program we intend to give this institutional aspect particular importance and to encourage progress in the beneficiary countries toward reasonable work-place conditions and opportunities for workers to associate freely and bargain collectively.

The United States has been developing this program in close consultation with the countries of the region and with other donor countries. Last July, we joined with Canada, Mexico and Venezuela to launch a multilateral action program for the region. It was agreed that each country would develop its own program but within a multilateral consultative framework. Mexico and Venezuela are operating an oil facility for the Caribbean Basin. Canada is more than doubling its aid. The program I am presenting . . . is our contribution.

We have worked carefully with both government officials and the private sector in all the Basin countries to assess their needs and their own priorities. We also have consulted with other potential donors, including Colombia, as well as multilateral development institutions. This program thus is part of an overall coordinated effort by countries within and outside the region. This structure will ensure that not only will our own actions be effective, but their impact will be multiplied by the efforts of many others.

This program consists of integrated and mutually reinforcing measures in the fields of trade, investment and financial assistance.

- The backbone of this program is the offer of one-way *free trade*. I am requesting authority to eliminate duties on all imports from the Basin except textiles and apparel items subject to textile agreements. The only other limitation will be for sugar; as long as a sugar price support program is in effect, duty-free imports of sugar will be subject to ceilings. Safeguards will be available to U.S. industry seriously injured by increased Basin imports. Rules of origin will be liberal to encourage investment but will require a minimum amount of local content (25%). I will designate beneficiary countries taking into account such factors as countries' self-help policies.
- I am proposing a five-year extension of the investment tax credit, now available for up to 10% of domestic investment, to investors in qualifying Caribbean Basin countries. A country would qualify for the benefit by entering into a bilateral executive agreement with the U.S. to exchange information for tax administration purposes.
- I am requesting a supplemental authorization for the fiscal 1982 *foreign assistance* program in the amount of $350 million. This assistance will help make possible financing of critical imports for the private sector in Basin countries experiencing a severe credit crunch. . . .

In a separate proposal I also am requesting action on the foreign assistance program for fiscal 1983. It includes $664 million for the Caribbean Basin. This program will be directed largely into longer-term programs aimed at removing basic impediments to growth. The fiscal 1983 aid request is an integral part of my overall program for the Caribbean Basin. We cannot think of this program as a one-time injection of U.S. interest and effort. Instead it must be a sustained commitment over a number of years if we really want to succeed. . . .

In addition to these legislative requests, I am directing the following actions, which are within the discretion of the Executive Branch:

- We will extend more favorable treatment to Caribbean Basin textile and apparel exports, within the context of our overall textile policy.
- We will seek to negotiate bilateral investment treaties with interested countries.
- We will work with multilateral development banks and the private sector to develop insurance facilities to supplement OPIC's political risk insurance coverage for U.S. investors.
- The U.S. Export-Import Bank will expand protection, where its lending criteria allow, for short-term credit from U.S. banks, as well as local commercial banks, to Basin private sectors for critical imports.
- Working closely with the governments and private sectors of interested countries, we will develop strategies to ensure the most effective use of U.S. and private sector resources in each country. These strategies will coordinate and focus development efforts of local business, U.S. firms, private voluntary organizations, the U.S. Government, and Puerto Rico and the U.S. Virgin Islands. The strategies will seek new investment and employment opportunities and also will seek to remove impediments to growth including lack of marketing skills, trained manpower, poor regional transport, and inadequate infrastructure.

Puerto Rico and the U.S. Virgin Islands are important components of the U.S. presence in the Caribbean area. Their development must be enhanced by U.S. policy toward the region. We have consulted closely with Puerto Rico and the U.S. Virgin Islands about the Caribbean Basin Initiative.

The legislation I am requesting will reflect Puerto Rican and U.S. Virgin Islands interests in many important ways:

- The Accelerated Cost Recovery System (ACRS) and the Investment Tax Credit (ITC) will be extended to property used by companies operating in Puerto Rico and the U.S. Virgin Islands. Similar benefits will be available to other U.S. possessions.
- Excise taxes on imported rum will be transferred to Puerto Rico and the U.S. Virgin Islands.
- Inputs into Caribbean Basin production from Puerto Rico and the U.S. Virgins Islands will be considered domestic inputs from Caribbean Basin countries for purposes of the rules of origin.
- Industries in Puerto Rico and the U.S. Virgin Islands will have access to the same safeguard provisions as mainland industries.

In addition, a series of measures separate from legislation which I am submitting today also will support the efforts of Puerto Rico and the U.S. Virgin Islands to play a dynamic role in the Caribbean region. In particular we will support proposed legislation which will permit products from the U.S. Virgin Islands whose foreign content does not exceed 70% to receive duty-free treatment. At present the maximum foreign content permitted is 50%.

All these elements in the Caribbean Basin program are inextricably linked with each other and to the fundamental objective of helping our neighbors help themselves. A key principle of the program is to encourage a more productive, competitive and dynamic private sector, and thereby provide the jobs, goods and services which the people of the Basin need for a better life for themselves and their children. All the elements of this program are designed to help establish the conditions under which a free and competitive private sector can flourish.

Most countries in the Basin already recognize that they must reform many of their economic policies and structures in profound and sometimes painful ways in order to take advantage of the new economic opportunities of this program. We—the United States and other outside donors—can offer assistance and support, but only the people in the Basin themselves will make this program work.

Some of the benefits of this program will take considerable time to mature; others are designed to have an immediate effect. But the program must be in action very soon because the challenge is upon us now. . . .

In the Caribbean Basin, we seek above all to support those values and principles that shape the proud heritage of this nation and this hemisphere. With the help of this Congress, we shall see these values not just survive but triumph in a Caribbean Basin which is a community of peace, freedom and prosperity. □

A statement by AID Administrator M. Peter McPherson

The CBI is an integrated package of trade, investment, ment, and aid measures designed to assist the countries of the Basin in coping with an unfavorable international economic environment and in implementing more effective economic policies that stimulate private investment and employment in directly productive activities. AID has played and will continue to play a major role in planning the trade and investment measures and in implementing the aid component of the CBI. We will also assist Caribbean Basin countries in making the most of opportunities made available by the trade and investment components.

Through complementary efforts in trade, investment and aid, we will assist countries in the Basin to resolve their short- and long-term financial problems, contribute to a revitalization of their private sectors and support the adoption of a more positive set of government economic policies. These actions will lay the groundwork for sustained and broadly based economic growth and will provide solutions to principal development problems.

The major objective of the aid component of the CBI will be to assist the countries of the Basin in overcoming their external debt and internal economic disequilibria over the next few years through sound stabilization and recovery programs. This requires large and immediate infusions of foreign exchange for balance-of-payments support. It is primarily to this need that an additional $350 million of Economic Support Fund (ESF) assistance requested for fiscal 1982—as well as the $140 million currently programmed—is directed. These new resources will substantially increase total U.S. aid to the Caribbean Basin; however, our resources alone cannot bring about the degree of recovery needed to contribute to a relaxation of the social and political tensions now threatening U.S. interests in the Caribbean Basin. Our programs are part of a larger package of assistance which includes resources made available by other donors, including Canada, Mexico, Venezuela, and Colombia, plus the multilateral institutions such as the International Monetary Fund, World Bank, Inter-American Development Bank, and other assistance agencies.

U.S. participation in this stabilization and recovery effort is especially important for strengthening domestic as well as foreign private-sector confidence. This is crucial if the countries of the Caribbean Basin are to obtain other external resources in the form of commercial bank lending, suppliers' credits and direct foreign investment. An improved climate of confidence will also slow and ultimately reverse the flight of domestic capital abroad.

AID plays and will continue to play an important role in assisting Caribbean Basin countries to design programs that permit efficient use of foreign exchange and to utilize local-currency generations in accordance with development and economic needs. ESF assistance will be used primarily to encourage the allocation of resources toward private-sector imports of raw materials and intermediate goods, thus facilitating domestic production and employment without a further deterioration in the balance of payments. At the same time, we will be discussing with policy makers in the Caribbean Basin countries themselves and with other donors, including the International Monetary Fund and the World Bank, possible reform measures to ensure that ESF and other external assistance is utilized effectively so as to have the greatest possible impact on increased production and employment generation.

While additional ESF resources will permit AID to focus increased attention on stabilization and recovery over the short term, increased levels of Development Assistance will enable us to continue working toward our principal long-range objective in the Caribbean Basin—the establishment of self-sustaining and broadly based growth within a democratic framework. Our Development Assistance program for the Caribbean Basin in fiscal 1982 will total $211 million, compared with $167 million in the previous year. Our 1983 request is for $218 million. These resources will support new and ongoing programs in agriculture, rural development, nutrition, population planning, health, education, human resource development and other activities. Particular emphasis will be given to technology transfer, institutional development and training.

Policy and other reforms, as well as additional resources for key development projects assisted by AID and other donors, will be supported by PL 480 assistance. Programmed PL 480 resources for the Caribbean Basin countries total $123 million in fiscal 1982, and $121 million is requested for fiscal 1983. The resources will provide additional balance-of-payments support for the Caribbean Basin countries, while the local-currency generations will help finance development activities. At the same time, key foodstuffs will help countries overcome food deficits without creating disincentives to local production.

The trade and foreign investment components of the CBI are intended to have a long-range impact. Even in the short run, however, they will assist by eliminating duties on sugar imports up to specified ceilings. The identification of new export opportunities in the U.S. market and construction of the physical plants and supporting infrastructure needed to supply this market may take two or more years. This is illustrated by the case of Jamaica where the government is strongly committed to the type of development strategy this Administration believes is necessary to achieve sustained economic growth.

There are many opportunities available for AID to facilitate new domestic and foreign investment oriented to both external and local markets. In the less developed countries of the English-speaking Caribbean, for example, our proposed new fiscal 1983 projects include a sector structural adjustment program to support the identification and implementation of needed policy changes in the productive sectors of the economy. Other projects include the second stage of an agricultural research project to improve small-farmer productivity, a vocational skills development program to provide the human resources needed by a growing industrial sector, and an inter-island shipping and marketing project with private sector involvement to provide markets for increased agricultural production in the Eastern Caribbean, to name a few.

Increasingly, we are emphasizing administrative and managerial training to improve the efficiency of both the public and private sectors. In fiscal 1983 we will initiate training projects in Jamaica and the Dominican Republic, and the expanded Latin America and the Caribbean regional training initiative will be continued. In Haiti, a new project will assist the government in implementing policy and administrative reforms. AID also will continue to support training for other segments of the labor force. In addition, a work force development project will be implemented in fiscal 1983 in Panama, and a basic skills training program in Jamaica will receive additional support.

In agriculture, we will be looking for more opportunities to support crop diversification and agribusiness enterprises.

AID has an important role to play in the stability and recovery of Caribbean nations.

New projects in fiscal 1983 include a Central America regional package to support research on promising nontraditional export crops and a loan fund to encourage production and export of these crops by the private sectors of these countries.

AID also will be supporting increased private sector development in industry and related sectors. Projects to be initiated in fiscal 1982 include a small industry loan in the Dominican Republic, an export credit loan in Costa Rica, and a regional private-sector promotion fund in Central America.

AID's private sector thrust also focuses on selected Caribbean Basin countries. Through the new Bureau for Private Enterprise (PRE), AID will provide technical assistance: to host country governments, providing policy guidance and, where required and requested, recommending changes to improve the investment "climate" of the host country; to indigenous private enterprises, to strengthen their managerial, financial, marketing and/or technical skills; and to host country institutions, to develop the financial infrastructure required to support a growing private sector. AID will provide the assistance needed to bring together investors, both from the United States and Caribbean Basin countries, who are interested in establishing business ventures in the Basin. To support these efforts, in conjunction with commercial banks and/or financial institutions, AID will provide financing for the private enterprises identified, either by direct loan, through an intermediate financial institution or in a co-financing arrangement with another financial institution.

Another resource available to the U.S. Government, through the International Development Cooperation Agency (IDCA), is the Trade and Development Program which facilitates the undertaking of feasibility studies while enhancing opportunities for U.S. firms to benefit from any new investments that might be generated by these studies. Also under IDCA is the Overseas Private Investment Corporation (OPIC), whose investment promotion programs likewise can facilitate additional U.S. investment in the Caribbean Basin.

In summary, AID has both a short-run and a long-term role to play in implementing the Caribbean Basin Initiative. In the short run, we will be cooperating with international agencies and bilateral donors in assisting Caribbean Basin countries to overcome their balance-of-payments problems and to design and implement economic stabilization and recovery programs based on policies that stimulate productive activities and avoid the reappearance of serious fiscal and balance-of-payments disequilibria. We will work with Caribbean Basin countries to find the most efficient possible ways to use ESF resources to provide foreign exchange for key imports of raw materials and intermediate goods by the private sector.

AID also has an important role to play in working with the countries of the Basin to ensure that local-currency generations from ESF resources are used primarily to support the short-term local currency credit needs of the private sector, while those from PL 480 resources will support public- and private-sector development activities with longer-term payoffs.

Development, we recognize, is a long-term process. It will take several years before the benefits of the trade and investment components of the CBI have a significant impact. Meanwhile, complementary Development Assistance activities are needed now to enable public- and private-sector managers and adminstrators to take maximum advantage of these opportunities and to help provide the agricultural, industrial, and export credit that will be required. Other investments in human resources and in such activities as agricultural research have payoff periods that are even longer. We know that the rates of return to these investments are high, and we will continue to support them. ☐

AID: BALANCING CRITICAL NEEDS

The U.S. will continue to play a lead role in development.

by AID Administrator
M. Peter McPherson

Much progress has been made in the developing world in the past three decades. The United States has played a leading role in that development. In his statements during the past year at Ottawa and Cancun, as well as in his speech last fall before the World Affairs Council in Philadelphia, President Reagan made clear his intention that U.S. leadership in this vital area will continue.

Our concern with assisting the development of countries of the Third World is based on a growing convergence of interests between them and the United States. There is, first, a commonality of security interests between ourselves and many developing countries. They are important for our national security, as we are important for theirs.

Major aid recipients are located in areas of strategic importance—in the Middle East, Caribbean and Central America, in the Pacific Basin, the Horn of Africa and Southwest Asia. Other AID recipients are important suppliers of energy and other raw materials essential to our economy. In addition, the local and regional defense efforts of developing countries contribute to international peace and security, and thus enhance our flexibility and capability to respond to problems on a worldwide basis.

Second, U.S. political interests and our continuing role of leadership in a market-oriented international economy can be substantially buttressed or hampered by the cooperation or hostility of developing countries. There are a variety of worldwide issues, from protecting the environment to controlling the illicit drug trade, maintaining a functioning international monetary system, preventing nuclear proliferation, and others on which the cooperation of developing countries is vital to an outcome consonant with our national interest.

Third, interdependence continues to be the overriding reality of international economic relations. When we and other donors provide substantial development assistance to stimulate agricultural productivity in developing countries, the pressures on our own supplies and prices are lessened. When our aid encourages policy reform, conservation and development of alternative energy sources in the developing countries, energy-related problems of our own economy are eased. When our assistance succeeds in helping slow down excessive population growth, it reduces future pressure on scarce economic resources, and it becomes less likely that a recipient country will require our assistance at some future time. When the United States and multilateral institutions help countries through difficult balance of payments crises, we preserve our trading partnerships and private-sector financial relationships. When development assistance is used to promote sound policies and stimulate economic growth in poor countries, we hasten the day when these countries can participate fully in the international economy and become strong and growing markets for U.S. goods and services.

Our reciprocal economic involvement with developing countries has become very substantial. Developing countries currently buy over one-third of our exports, and as much in value of our manufactured goods as do Japan, Western Europe, and the Communist countries combined. U.S. direct investment in developing countries (excluding OPEC countries) has increased three-fold in the past decade, and U.S. banks have an estimated $48 billion in loans outstanding to developing countries.

Fourth, the humanitarian character of our assistance programs, a thrust that makes this a unique government agency, is evident throughout our fiscal 1983 request. Our focus continues to be on the basic needs of people in developing countries. We will continue to use funds in our economic assistance programs administered by AID, to the maximum extent possible, to address the major problems confronting the recipient countries—interrelated problems of food scarcity, excessive population growth, inadequate infrastructure, depletion of natural resources and dwindling energy supplies. The Development Assistance & Economic Support Fund, together with the PL 480 program and refugee assistance program, play an important role in assisting the poor majority.

Economic assistance has a vital role as a catalyst and facilitator of capital flows and in helping to establish the preconditions for greater private flow in the very low-income countries. It follows that our economic assistance should be provided in ways which mobilize the vastly greater resources of the American private sector in support of indigenous development and to stimulate growth of host-country private sectors and free-market orientation.

Our objective in development assistance is to pursue a balance between the needs of the present and the future. Current urgent needs must be dealt with, and we shall continue through PL 480 and disaster assistance programs to help those individuals to address these needs. But development is first and foremost long-term, and, in the long-term, foreign trade and private financial flows will represent the major source of economic growth for most developing countries.

The U.S. assistance program will strive to remove roadblocks to innovation and productivity.

However, we can assist and support the developing countries in establishing sound economic policies which will affect their economic performance and use our assistance to help them help themselves in preparing for the future.

Long-term development depends, to a large degree, on the nature of the policies followed by the developing countries themselves. By concentrating development assistance in those countries willing to pursue more open economies, and by seeking policy change in others, we intend to encourage adoption and implementation of policies conducive to indigenous private enterprise. We will thus be supporting of the economic growth and social development which are necessary to demonstrate that the free market is an efficient, effective vehicle offering the best hope of meeting the basic needs of the poor majority.

Our agency-wide private-sector thrust also mobilizes U.S. private institutions—academic and agricultural, business and volunteer services—in support of our assistance strategy. We seek mechanisms to share with developing countries the science, technology, and management techniques of the U.S. private sector. Perhaps most important, our bilateral development assistance program will be increasingly a program of institutional development, a program essential to removing the roadblocks to technological innovation and productivity improvements.

Finally, we will work with the private

Despite progress, providing adequate food for all remains a problem.

sectors in the U.S. and the developing countries to devise measures that could lead to greater direct private investment and private sector participation in the development process. Included will be developmentally oriented private sector projects, and advisory assistance to encourage open host country investment policies, investment institutions and information.

Despite the progress I noted earlier, the problems of the Third World remain substantial. Notwithstanding success in increasing food production by introducing improved technologies and removing disincentives from the food production system, the ability to provide adequate food for all citizens remains a major concern for many of the developing countries. Deforestation and attendant soil erosion have not only reduced fuel supplies, but have also reduced the amount of land suitable for farming. Excessive population growth continues to inhibit our progress in solving all development problems. Lack of adequate health facilities and educational services not only mean a greater incidence of disease and illiteracy, but also further stifle developing nations' productive capacities.

The magnitude of development problems is such that we cannot rely solely, or even primarily, upon official economic assistance to solve them. We must adopt a coordinated approach embodying several mechanisms—greater private sector involvement, more emphasis upon technical assistance and institutional development, and more careful targeting of our resources to those countries which have policies consonant with sound and broadly based economic development.

Fiscal 1983 Budget Request

The budget request for FY 1983 reflects the Administration's continued concern with striking a balance between the need to limit the growth of Federal spending and the need to provide adequate resources and incentives to meet our important foreign policy and development objectives.

Let me turn first to the budget request for AID. The development assistance budget request represents, in total, a small increase over the fiscal 1982 enacted appropriation. It reflects increased attention to the initiatives we began last year, particularly that of stimulating greater involvement of the private sector in our development efforts.

The budget for the next fiscal year reflects particular attention to effective targeting of limited foreign assistance resources. Country and regional activities have been reviewed carefully to ensure that proposed programs serve U.S. foreign policy and development objectives. The planned program in functional areas is concentrated in those activities where the United States has particular expertise: food production, education and training, energy, population and health.

For the fiscal 1983 bilateral economic assistance program AID requests an appropriation of $4.7 billion including $1.8 billion for Development Assistance and $2.9 billion for the Economic Support Fund. Development Assistance includes funding for functional Development Assistance programs, the Sahel Development Program, American Schools and Hospitals Abroad, International Disaster Assistance, Operating Expenses, and the Foreign Service Retirement Fund.

Approximately $1.3 billion of the amount requested for Development Assistance is for the five authorized functional accounts. Of the amount allocated directly to country programs, 86% would go to "low income" countries—those with a yearly per capita income below $730.

For the Agriculture, Rural Development and Nutrition program, we are requesting an appropriation of $700 million. This account remains the largest portion of the request for Functional Development Assistance, in response to the problem of inadequate food supply in the developing world. As I indicated, despite impressive gains in food production in some developing countries, many remain unable to meet their minimum nutritional needs.

There is still a critical need for primary education.

The AID rural development program has three principal objectives: to help increase and sustain the productivity and income of small farmers; to assist in the creation of employment opportunities for the rural poor; and to help improve access to, and utilization of, food.

Manpower development and training has become a top priority.

To achieve these objectives, AID's program stresses the removal of economic policies inhibiting broadly based growth, the development of private and public sector capacity to foster increased agricultural production and employment expansion; the development and use of improved agricultural technologies; and the improvement of human resources, rural infrastructure and the natural resource base.

More than 40% of the request would go to Asia, the region with the largest share of the world's most seriously malnourished, where government policy reforms in countries such as Bangladesh and Indonesia are helping to increase host-country food production. Another 21% would go to Africa, where policy reforms are also underway in some countries, to help reverse the long-term trend of declining per capita food production.

Funds from this account also would be used to help developing countries address the problem of accelerating deforestation, which is threatening many areas in Africa, the Caribbean Basin, and Asia, resulting in critical shortages of fuelwood and causing extensive environmental degradation.

As in the past, a substantial portion of the funds requested would finance activities specified under Title XII of the Foreign Assistance Act, much of which is channeled through U.S. land-grant universities and other institutions eligible under that Title.

For Population, we request a fiscal 1983 appropriation of $201 million. Excessive population growth in the developing countries is one of the primary obstacles to the expansion of per capita food production, reduction of malnutrition and chronic disease, and conservation of dwindling non-renewable resources. Despite recent encouraging reductions in birth rates in several developing countries, population in many others continues to grow at unprecedented rates.

The slight reduction in fiscal 1983 population budget below fiscal 1982 does not indicate a reduced priority for population planning. Rather, the slight drop is principally the result of a one-time increase in the program in fiscal 1982 to make up for short-falls in the fiscal 1981 programs in Asia.

About 40% of the funds are for country programs, with the largest portion going to Asia, where several major national family planning programs are well underway. The balance of the request is for AID's centrally funded programs to support family-planning activities through-

Successful economic development will depend on mobilizing the private sector—both U.S. and LDC.

out the world, information and commodities, plus related policy initiatives and applied research.

AID's programs emphasize the provision of voluntary family planning services for the rural poor through paramedical workers and the private sector. I wish to stress that the program does not fund or in any way encourage abortions, or related research. In response to Section 104(d) of the Foreign Assistance Act, our population activities stress the importance of the links between family planning and the impact of programs in agriculture, rural development, health and education.

We are requesting an appropriation of $114.1 million for Health activities in fiscal 1983. Approximately 37% of health funds will go to Africa, reflecting the enormous need for basic health services in that region. Much of our assistance to Africa will support rural water and sanitation programs and immunization campaigns to combat the diseases of early childhood, as well as tropical diseases such as malaria and schistosomiasis, which are major causes of death and disability in the region. Primary health care programs are well underway in Asia and Latin America. In these regions, our focus is on expanding access to basic health services. In fiscal 1983, we will be giving increased attention to programs in health planning and management, operations research, and in the transfer of proven health technologies.

Our request for Education and Human Resources Development totals $116.4 million. The education situation in developing countries remains critical despite sizable increases in their budgetary allocations to education and significant gains in school enrollments over the past several decades. Most countries still have severe shortages of trained manpower available to administer development and other programs effectively. One out of every four school-age children in LDCs does not even enter primary school, and only half of those who enter will stay in school long enough to acquire basic skills. More than one-third of the 2.1 billion adults in the developing world are illiterate.

While the need for resources to assist the developing countries with their educational requirements far exceeds the availability of funds, our program provides assistance in selected areas where the United States has recognized expertise. The fiscal 1983 program reflects the Administration's concern with increasing attention to manpower development and training, and the management capacities of educational institutions. The largest portion of our planned program is for training of administrators, managers, and scientific personnel to help recipient countries become able to carry out their own development efforts. The program also provides continued assistance with the improvement and expansion of basic primary education for children and with vocational and technical training, support for labor organizations, and related education activities.

More than one-third of the request would be allocated to Latin America, for manpower development activities and continued efforts to help reduce that region's high primary school dropout rates. About one-fourth would go to Africa where the acute shortage of trained administrators remains a major obstacle to development.

For the Energy, Private Voluntary Organizations, and Selected Development Activities account, we are requesting authorization and appropriation of $166.8 million for fiscal 1983, including $10 million for activities in the Science and Technology program also authorized under this account.

The increase in the Section 106 account reflects our intention to fund several very high-priority activities aimed at a number of development problems, including growing demand for energy, environment and natural resources problems such as loss of agricultural land and water pollution, growing unemployment and problems associated with rapid urban growth.

As I already have pointed out, the planned activities place high priority on mobilizing greater involvement of the private sector—both U.S. and LDC—in development, including greater reliance on private and voluntary organizations. Approximately one-third of the request would be used for private enterprise activities, half of which would go to Latin America for such activities as promotion of cooperative banking, small business development and technology transfer. More than $20 million would go to the new Private Enterprise Bureau for investment packaging, technical assistance, and related activities.

This shelter, developed under a joint CARE/AID project, will withstand the recurring storms and floods that plague Bangladesh.

The request also includes substantial funding for energy-related initiatives (such as energy management and research on alternative energy sources) and for support of U.S. private and voluntary organizations.

For programs of scientific and technological cooperation, we are requesting $10 million for fiscal 1983 within the amount proposed for Section 106, under which such activities are authorized for fiscal 1983. The request includes funding for small competitive grants to stimulate innovative research approaches to development problems, and to build indigenous science and technology capacity in the developing countries.

For the Sahel Development Program, we are requesting a fiscal 1983 appropriation of $93.8 million to fund the sixth year of U.S. support of a multilateral effort to help drought-ravaged West African countries achieve greater regional self-sufficiency in food production and general self-sustaining development. In response to past problems, AID is taking a number of steps to improve financial management of the program, including measures to assure better control of funds at the project level and to strengthen host-country financial and program management.

For American Schools and Hospitals Abroad, we are requesting $7.5 million for fiscal 1983 to continue support of overseas U.S. schools, hospitals and libraries which serve as demonstration centers for American ideas and practices in education and medicine. We plan to continue to give emphasis to geographic dispersion of the program, with special priority to institutions in less developed countries.

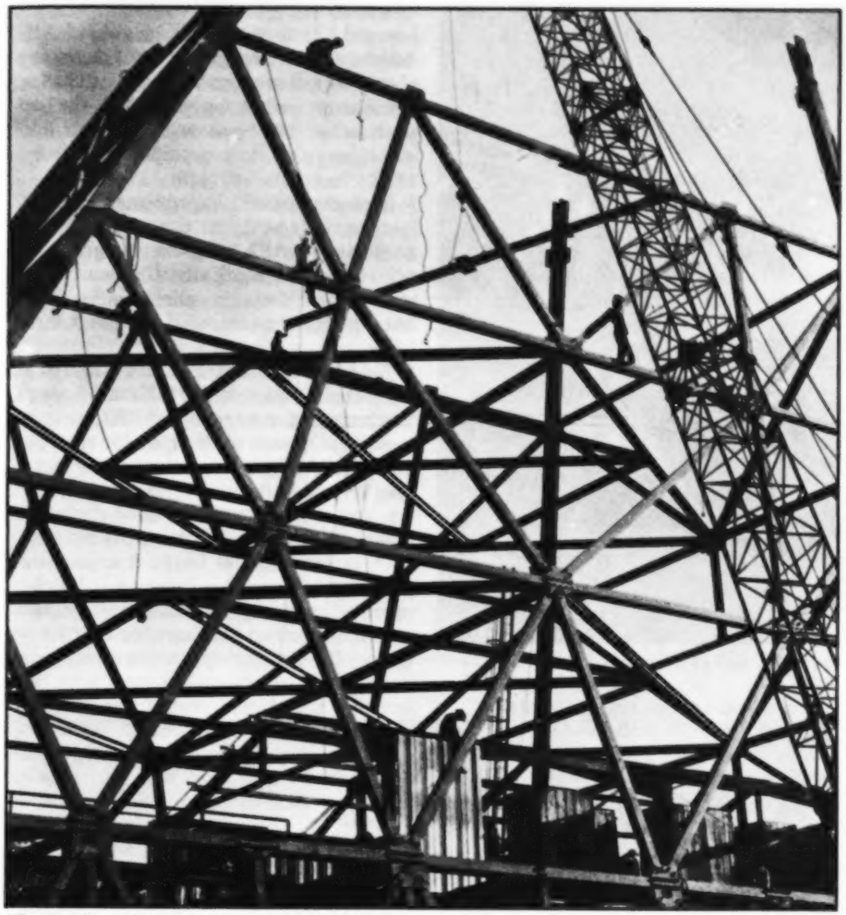
We are requesting $25 million for fiscal 1983 to provide emergency assistance to countries struck by natural disasters such as floods, hurricanes and earthquakes, and by war, civil disturbances and other natural or manmade catastrophes. The program also supports assistance in disaster prediction and preparedness.

The fiscal 1983 request for the Economic Support Fund is $2.9 billion for economic assistance in support of critical U.S. foreign policy interests in areas of strategic concern to the United States. More than one-half of the request, a total of $1.6 billion, is for the Middle East, principally for Egypt and Israel, to support continued U.S. efforts to bring peace to the region.

The ESF request also includes a total of $326 million for strategically important countries in Central America and the Caribbean Basin, including $105 million to continue support for the government in El Salvador.

Also, $350 million will go to Turkey, as part of a multi-donor effort to help that country deal with its balance-of-payments problems. A total of $325 million is allocated to countries and regional programs in Africa; and $234 million is provided to Asian countries, of which $175 million is for Pakistan.

In addition, the request includes $75 million for a high-priority ESF Special Requirements Fund, to permit quick U.S. response to unforeseen needs for economic assistance in strategic areas. $50



The Trade and Development Program fosters growth in middle income nations.

million of this amount is earmarked for the Caribbean Basin and is included in the $326 million.

I would like to turn now to the request for other programs in which IDCA is involved.

PL 480

Food aid remains a principal element of our foreign economic assistance program. We use food to address the problems of agricultural development in LDCs (production and policy reform) and health and malnutrition, thereby increasing productivity to help break the vicious cycle of low production and extreme poverty. In the past year, we have increased our efforts to integrate PL 480 programs more fully with our overall country strategies and programs. We hope through our efforts not only to provide food to those who are in need, but also to teach them to help themselves to meet future food requirements.

The fiscal 1983 PL 480 request totals $1.5 billion for all titles. The slight increase in the PL 480 dollar level from fiscal 1982 to fiscal 1983 must be viewed in context. The total fiscal 1983 PL 480 program level increased by $28 million or 2% over fiscal 1982 levels, although when discounted for inflation, it will provide for the shipment of approximately 175,000 less tons of food than that shipped in fiscal 1982 due in part to projected higher commodity prices.

The Title I request is $859 million, including $91.6 million to meet the cost of shipping at least 50% of PL 480 commodities on U.S. flag vessels. Fiscal 1983 funds will provide for the shipment of approximately 3.25 million tons of food. We expect to have Title III Food for Development Programs totaling $146 million in fiscal 1983 (18% of total country allocations).

For the upcoming fiscal year, the Title II request is $650 million, including $250 million for ocean transport and overland delivery to land-locked countries. We will provide approximately 1.2 million tons of food for non-emergency programs of voluntary agencies and the World Food Program, and about 400,000 tons for emergency/refugee requirements. This is less than in fiscal 1982 principally because of reduced estimates of emergency and refugee needs. In fiscal 1983, approximately 890,000 tons of Title II food, valued at $243.5 million, will be donated to voluntary agencies and 314,000 tons of food, at a cost of $75 million, will be allocated to fulfill our pledge to the World Food Program.

Overseas Private Investment Corporation

The Administration is requesting authority that would permit OPIC to issue up to $100 million in loan guarantees and $10 million in direct loans in the next fiscal year. The guarantee authority of these funds will be used with OPIC's insurance authority to finance private investment projects in developing countries, with special emphasis on projects in the Caribbean Basin. OPIC plays an invaluable role in the foreign assistance program because it facilitates the participation by private American investors in the economic and social development of Third World countries.

Voluntary Contributions to International Organizations and Programs

The budget request for voluntary contributions to international organizations and programs totals $173.25 million. This request supports voluntarily funded development and humanitarian assistance programs of the United Nations (UN) and the Organization of American States (OAS). More than three-quarters of the requested funds are for two major UN programs—the UN Development Program and UNICEF. Other significant but more specialized assistance funded by this account include U.S. contributions to the International Atomic Energy Agency, the UN Capital Development Fund, and the assistance programs of the Organization of American States.

Trade & Development Program

The fiscal 1983 request for the Trade and Development Program (TDP) totals $10.5 million. TDP plays a unique role in fostering the development of middle income countries while promoting trade opportunities for the U.S. and generating revenue from the sale of technology, goods and services. We plan to target TDP's funds increasingly at the critical stage of the planning process where U.S. firms competing with foreign firms are in the final stages of bidding for feasibility studies for large-scale projects, and we are instituting procedures to seek reim-

Disaster relief is an important part of development assistance to poorer nations.

bursement from U.S. firms that perform feasibility studies on projects funded by TDP and are subsequently awarded contracts.

International Fund for Agricultural Development

The fiscal 1983 request for the International Fund for Agricultural Development (IFAD) totals $65.4 million. This amount represents one installment of the $180 million U.S. contribution authorized by the Congress. The Administration supports IFAD's objective to help developing countries increase food and agricultural production in support of the broader goal of reducing hunger and malnutrition. Concern over the level of contribution by OPEC members and attempts to expand the Fund's permanent staff, which resulted in denial of an appropriation for fiscal 1982, has been resolved with an agreement to freeze permanent staff positions and a replenishment agreement to increase OPEC members' contributions to $450 million.

Multilateral Development Banks

The budget request for multilateral development banks (MDBs) reflects the Administration's commitment to honor cost-sharing arrangements which already have been negotiated internationally. For all institutions, except one, arrangements had already been negotiated prior to 1981 and the budget request provides funds to meet these commitments.

For the World Bank, the request provides the final $16.3 million in indebtedness from the 1977 Special Capital Increase and the second installment, $109.7 million, of the U.S. paid-in share of the Bank's General Capital Increase. For the International Development Association, the Administration's fiscal 1983 request is $945 million. For the Inter-American Development Bank, our request is $62.4 million for the capital window, completing U.S. financing under the last capital increase, and $221.7 million in soft-window financing for the IDB's fund for special operations. The request for the Asian Development Bank and Fund includes $248,000 in arrears to the hard window and $131.6 million for the last installment of ADF III and partial payment of arrears remaining from the prior replenishment.

Only the $50 million request for the African Development Fund represents a newly negotiated multilateral development bank contribution. Earlier this month, the U.S. reached agreement with other donors that subject to obtaining legislative approval it would provide $150 million over from fiscal years 1983 to 1985, to the third replenishment of this Fund, compared to the $125 million that the U.S. supplied under the prior replenishment. The Administration is requesting no appropriations for the African Development Bank, pending that institution's formal opening to non-regional membership.

Management Initiatives

I would like to return to the role of AID Administrator and give a brief summary of my overall management objectives for the Agency: what we set out to do last year, what we have accomplished and what we plan to accomplish in fiscal 1983.

Implementation improvement began last spring with a top management analysis of AID projects obligated in prior years. Special attention was given to troubled projects, particularly those not being implemented in a timely fashion.

This review resulted in the total fiscal 1981 deobligation of $74 million. Through this exercise, we sensitized AID management at all levels to the need for rigorous portfolio analysis as a continuing process. We made it clear by this action that we are willing to make hard decisions when our projects are not working.

On a semi-annual basis, it is now expected that operating bureaus will refer troubled projects to responsible Washington staff or to Missions for corrective action. This continuing process will produce either deobligations or corrective action, sometimes requiring radical restructuring of individual projects.

One factor previously inhibiting performance in the field was the limited ability of Assistant Administrators and Mission Directors to act on their own authority. This has been changed. We have increased the delegation of project authority to the Assistant Administrators in Washington, and from them to the Mission Directors, from $10 million to $20 million. We have selectively authorized the Missions to approve projects with a longer life, doubling their authority to approve projects from five-years duration to ten years. On a selective basis, we also have increased the Missions' authority for operational program grants (OPGs) to U.S. private voluntary organizations from $.5 million to $1 million. Through these expanded delegations of authority, we expect to slash considerable time and cost from the contracting and project-approval processes.

The second area of administrative streamlining at AID was our program of reductions in personnel. We made every effort to implement the reduction program without crippling our operational capacity overseas. Since the bulk of our programs are actually implemented in the field, we felt that it was important not to impair our ability to carry out our responsibilities. We have been able to meet our lower personnel ceilings without reducing either flexibility or capacity in our country Missions.

Also, we were determined to reduce

redundancy and inefficient use of Washington personnel. For instance, in the 10% reduction in headquarters, we eliminated numerous duplicative policy and contract review procedures conducted by the various bureaus. The reductions forced limited reorganizations within the headquarters units, the effect of which was to reduce the shuffling of paper and layers of review within those bureaus.

We also are carefully examining a number of different functions both in the field and in Washington which might be contracted out. To the extent that contracting out is cost-effective, we would hope to achieve both lower personnel levels and the attendant lower operating costs. Contracting out is not a panacea, but it is an important element of flexibility.

We have achieved a substantial personnel decrease in Washington without using the "reduction-in-force" (RIF) mechanism.

I am committed to strong management, and I intend to take all necessary steps to avoid the management problems a RIF creates. To achieve the reduction through attrition, we have instituted a selective Washington hiring freeze, we have begun a replacement program to put occupants of eliminated positions into vacancies in continuing positions. We will complete this program later this summer.

At the same time, we are maintaining the staffing levels for the Inspector General's program at a time when the Agency is reducing its overall personnel levels. In fact, our Inspector General program was exempted from the sharp personnel reductions in on-board strength imposed elsewhere in Washington. Currently, only the Inspector General's office is proceeding with normal hiring.

Operating Expenses

AID is requesting $376 million in new budget authority to fund its fiscal 1983 operating expenses. This represents a $45 million increase over the fiscal 1982 appropriation of $331 million. However, it should be noted that $9 million of this increase is to cover the cost of the October 1981 pay raise and the January 1982 lifting of the cap on salaries of federal employees, costs not included in the fiscal 1982 appropriation of $331 million.

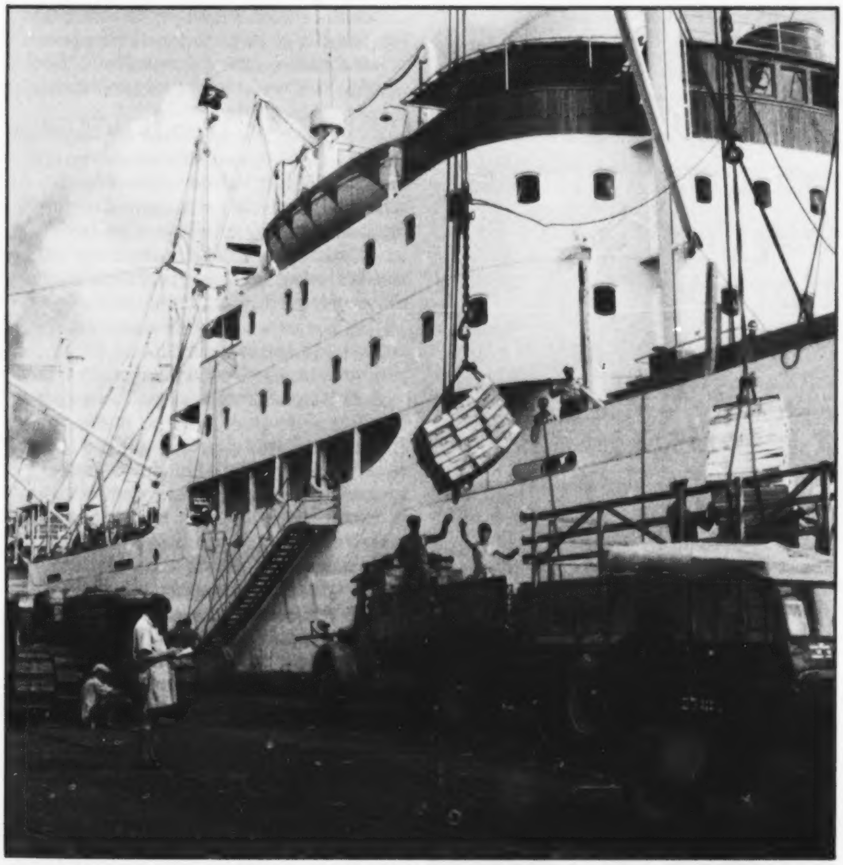
In spite of an overall decrease in personnel from 1982 to 1983 of 100 work-years, fiscal 1983 salary and benefit costs will remain at about the same level as the fiscal 1982 levels as adjusted for the pay raises which took effect this year. This reflects full-year funding in fiscal 1983 of the 1982 pay increase and various provisions of the Foreign Service Act of 1980.

The Agency has taken several steps in the past year, and plans further actions in the future, to minimize the impact on the operating expense budget of rapidly escalating prices overseas and in Washington. The use of the Section 636(c) authority in the FAA to purchase residences and office buildings in past years is now beginning to pay off. Funding required for rents and utilities overseas is projected to increase only 6% from fiscal 1982 to 1983. While no funds are available in fiscal 1982 to cover Section 636(c) acquisitions, we are requesting $3 million in 1983 so that we may continue this trend in reducing rental payments in future years. Unfortunately, this avenue of relief is not available for our Washington operations.

As a result of our increased review and analysis of Foreign Affairs Administrative Support (FAAS) budgets and bills received from the Department of State, sharp cost reductions have been possible. We project a $3 million increase in FAAS costs in fiscal 1983, for a level of $23 million.

An increase in funding for staff training is requested in the next fiscal year. Training is essential if we are to increase the efficiency and effectiveness of our personnel, especially increased language training for personnel scheduled for overseas assignments. While language training is the largest single category in our training budget, other types of training are equally important, for example, that relating to project design and implementation, management (both project and non-project), and specialized training in areas such as agriculture, energy, and population.

AID's budget request for 1983 is the minimum amount necessary to carry out the operations of the Agency. However, it must be emphasized that the inflationary effects of doing business overseas account for almost three-fourths of the increase included in this request. For example, the cost of moving employees, family members, their household effects and related office supplies will increase $2 million in fiscal 1983. Nevertheless, the Agency will continue to maintain its scrutiny and management of the operating expense budget to ensure that it represents only the minimum essential requirements of the Agency. □



Reduced cargo losses and improved port efficiency are the result of good management.

AFRICA: Development Is Now More Difficult, More Urgent

After steady growth in the 60s and 70s, the economic tides seem to be turning.

A statement by
Frank S. Ruddy
AID Assistant
Administrator for Africa

For fiscal 1983 the Africa Bureau is requesting a total of $648.4 million, a 7% increase over the fiscal 1982 level. The Development Assistance request of $323.4 million is 1.8% below that of the preceding year. And for ESF, the fiscal 1983 request is 17.3% higher than for fiscal 1982.

The $323.4 million in Development Assistance requested will concentrate on the following areas: agriculture and rural development, $142 million; health, $32.4 million; education and human resources development programs, $30 million; selected development problems, $20 million; and population planning, $5 million. The $5 million figure does not include $2 million for population in the Sahel Development Program and $17 million for central bureau funding. The Sahel Development Program, which is a separate functional account, and for which $93.8 million is requested, focuses on food production, environmental reclamation, health, population and related training. In addition to Development Assistance, $325 million in ESF is requested primarily for programs in southern Africa and the Horn. $191.7 million, in PL 480 assistance is requested, including $43 million in Title III. The fiscal 1983 request, if appropriated, will be used to address a series of economic and social problems in Africa.

Overview of Trends in Africa

Over the last decade trends have materialized in Sub-Saharan Africa which suggest that economic development of the region is becoming both more difficult and more urgent. After moderate but steady growth and development in the 1960s and early 1970s, the economic performance of Africa has seriously declined, and projections for the 1980s are not bright.

A combination of factors has caused the downturn in African economic performance. Rapid population growth together with relatively slow rates of technological change, and the fact that in many areas the limit of cultivation has been reached are some of the reasons.

Sub-Saharan Africa's population in 1980 was approximately 353 million. Africa's population is growing at an average yearly rate of about 2.8%, and food production has not kept pace. This imbalance must be reversed; the dangers are self-evident. In agriculture—the predominant economic activity in this region—average yearly per capita growth rates were negative at .9%, and the per capita volume of exports (mostly agricultural commodities and minerals) fell at an average rate of 3.5% each year.

There has been a chronic decline in

Africa per capita food production since the early 1960s. Production increases have been attained almost exclusively by expanding the areas under cultivation. Food yields per hectare (1 hectare = 2.5 acres) have been stagnant, and at much lower levels than in other regions. Currently, average yearly growth in per capita GNP is projected between 1% and -.1% between 1980 and 1990.

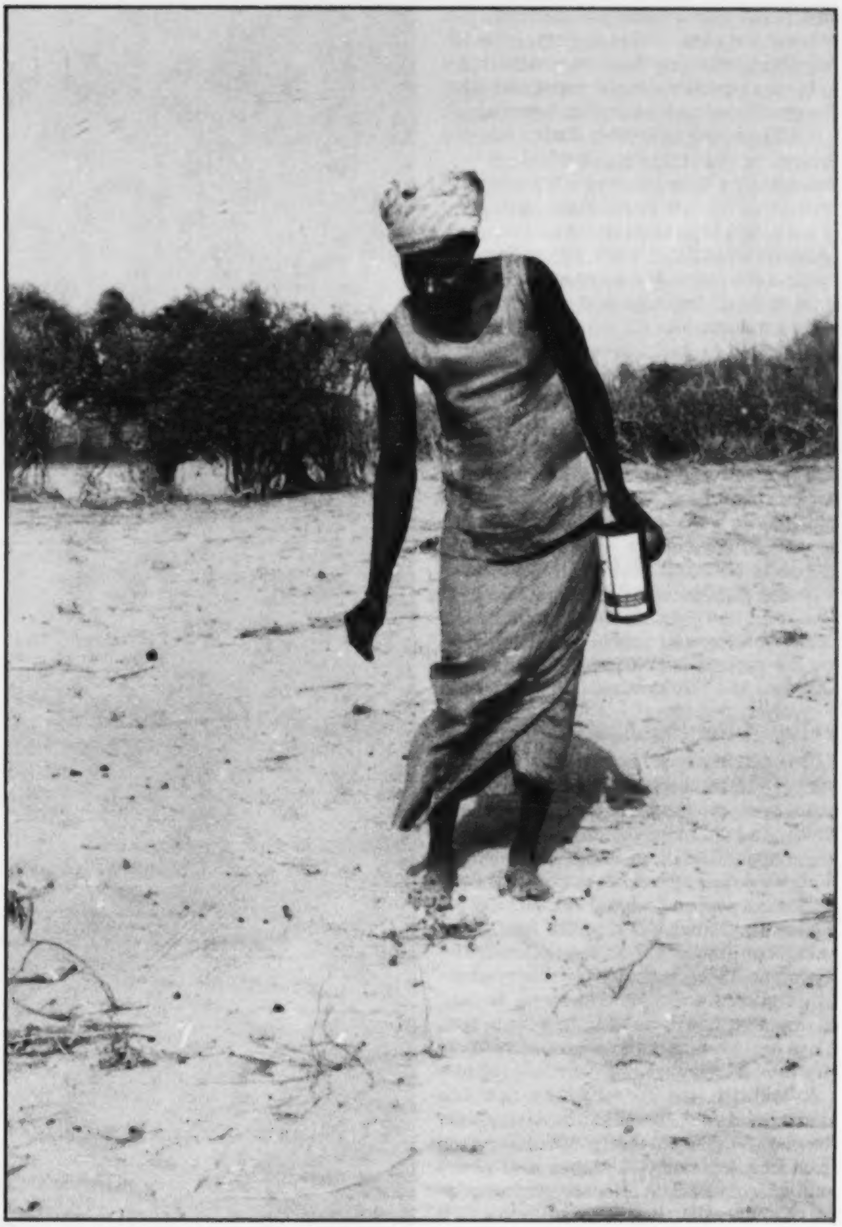
Potential and Progress in Africa

Notwithstanding the recent trends in Sub-Saharan Africa, the region has substantial long-term economic promise. It has the potential for increasing yearly production of cereals by approximately 16 million tons from rain-fed land and by approximately 9 million tons from irrigated land, for a yearly production increase of about 25 million tons. The potential average yearly rise in livestock products is estimated at 1.04 million tons.

The Sahel region could put 2 to 6 million hectares (5 to 15 million acres) under irrigation, and about 1.8 million of that could be under irrigation by the year 2000. This alone would mean increasing by half the amount of food produced. Significant overall production increases could be achieved through intensifying cultivation of dry land, applying different farm technologies and opening new lands through the control of onchocerciasis and other diseases.

Sub-Saharan Africa has nine major river basins running through several countries in the Sahel, central and southern Africa. Irrigation potential can be compared to the American West. The basins offer the possibility of putting some 14 million hectares (35 million acres) under irrigation, with estimates in the Sahel region alone ranging from two to six million hectares (5 to 15 million acres). Africa is estimated to have over one-third of the world's potential hydropower resources. Energy from hydropower is one of Africa's greatest underutilized resources. The natural highways which are formed by the rivers can serve as low-energy alternatives for moving agricultural products to markets and supplies to producers.

While distribution among countries is very uneven, Africa is a major producer of minerals such as copper, cobalt, chrome, and uranium. There has also been a steady increase in the number of oil deposits located, particularly in coastal waters. Only a small portion of the land has been surveyed in detail and the potential is believed far greater than current production levels would suggest.



Food production could increase significantly by intensifying dry-land cultivation.

With respect to progress, Africa's absorptive capacity has been rapidly enlarging. Today an estimated 60% of all school age children are in primary schools. Since mid-1960 annual secondary and higher education enrollment have increased by 9.8% and 11.1% respectively. Conditions are being created which will increase Africa's ability to use its greatest resource, its people.

In the area of food production, new hybrid cereal varieties have been developed, seed multiplication techniques replicated and new agriculture research started. A number of African countries are beginning to re-examine policies affecting food and agriculture production. These include food pricing and parastatal (public) enterprises. As a result of a joint assessment in Senegal, a declaration was issued calling for the abolishing of two major parastatals, reorganizing rural development agencies and promoting private cooperatives. The government also plans to undertake new pricing policies and revamp the farm credit system. Private voluntary organizations are continuing to play a significant role, especially at the grass roots level, and in carrying out AID-funded activities. Under one project in Upper Volta, aimed at developing rural enterprise, 80 entrepreneurs have improved their business practices; 120 entrepreneurs have received loans; and a demonstration farm is now introducing new technology such as hand mills, peanut presses and other implements.

Description of the Fiscal 1983 Program

The fiscal 1983 request concentrates the Agency's efforts on a small number of key interrelated problems facing the African continent. AID assistance will continue to stress the production aspects of agriculture with particular emphasis on small holders. In that context, the Agency will place special emphasis on institutional development, policy reform, and building and supporting the private sector wherever appropriate.

Private Sector Activity

AID is placing special emphasis on support of the private sector of African economies, particularly indigenous small- and medium-size enterprises. We are now reviewing projects to assure that wherever appropriate the private sector is used and supported. For example, in Zimbabwe, 80% of the foreign exchange associated with our Commodity Imports Program (CIP) is reserved for imports for the private sector to assure that it will be able to update its plant and equipment and operate efficiently. . . .

In addition, we expect PVO grants of approximately $31 million in Africa in fiscal 1983. This includes $25 million from Development Assistance and $6 million from ESF. We believe that AID/PVO cooperation is an effective means for enhancing the impact and effectiveness of our efforts.

Overall, we believe that support of the private sector is an efficient way to expand employment and productivity. Moreover, maximizing use of the private sector will lessen the burden of already overextended governments.

Agriculture

AID will seek to promote technical changes which will boost agricultural productivity, lessen peak-season labor problems and reduce agriculture losses. AID is emphasizing institution building in agriculture research and extension for example, to achieve technical changes and to establish the capability of African countries to sustain the effort. Manpower development is being pursued as a means to promote institution building and to help increase agricultural productivity across the entire sector.

To improve efficiency in the employment of both AID and host country resources, AID has placed an increased emphasis on host country economic policies. At the macro-economic level AID will seek to insure that its country programs are consistent with the intent of International Monetary Fund (IMF) and/or World Bank reform agreements with host countries. Where possible AID measures will actively reinforce host countries' efforts to comply with these agreements. Also, at the sector level, the Agency will seek to collaborate with host countries on devising ways to improve specific policies. AID

is especially interested in adjustments that will increase the influence of market forces in the determination of agriculture prices, liberalize marketing arrangements and expand the role of the African private sector in agriculture-related activities. Private enterprise activities such as a new agribusiness development project in Kenya, along with ongoing activities on the manufacture of farm implements in Uganda and Niger, as well as training, are proposed for funding in fiscal 1983.

Health

The goal of the Africa Bureau health sector development program is to help countries address their health problems on a national and regional basis. Health programs are supported for the most part in four general categories:

- **Primary Health Care**—These multidisciplinary projects provide support for systems of health services for rural communities. Projects usually consist of training village health workers and their supervisors and providing logistic support. Seven basic services are recommended for primary health care systems. $13.9 million is proposed.
- **Health Planning, Management and Manpower Development**—Training and technical assistance are provided to countries and regional organizations to develop national capabilities to manage national primary health care programs. Bilateral, regional and multilateral projects address Africa's main constraint to health development—lack of health manpower. $2.3 million is proposed.
- **Water and Sanitation**—Support is provided for developing safe water sources in rural communities, and maintaining environmental safeguards. Education of communities is an important aspect of these projects. $4.7 million is proposed.
- **Endemic Disease Control**—Bilateral, regional, and multilateral projects address the tropical disease problems of vast geographic areas. Diseases such as malaria, schistosomiasis, onchocerciasis, and trypanosomiasis are endemic in most of Africa. Programs include surveillance, sector control, treatment, chemo-prophylaxis, and immunizations. A budget of $10 million is proposed.

Population Program:

In Africa progress in the population sector has been slow. The population issue in Africa has to be approached with great care and sensitivity. It must be carefully integrated with the provision of health services, with the opportunities for improvement in income and in general economic growth and employment opportunities. Otherwise it will be distorted and will backfire on efforts to establish programs. The implementation of a family planning program is a slow and difficult process. Partly it is organization, relating to establishing the kinds of systems for delivery of health services in conjunction with family planning; partly it is institutional. A lot is attitudinal. It is a matter of getting people to understand the relationships between population growth and the economic problems. AID recognizes the voluntary nature of population assistance and respects the free choice of developing countries to receive or refuse family planning assistance.

At least seven Sub-Saharan African nations (Botswana, Ghana, Kenya, Mauritius, Rwanda, Senegal, Uganda) have declared national population policies. Several others, including Nigeria and Sudan, have recently estab-

Increasing economic opportunity for a skilled workforce will be essential to development.

lished national population councils. At least 23 countries in the region now provide family planning services in government clinics.

Energy and the Environment

AID must continue to address the high cost and increasing scarcity of energy resources, as well as deforestation and ecologically unsound agriculture and livestock practices if Africa's productive capability is to be preserved and expanded. AID will support efforts to reforest and to conserve range and soil. These activities will be designed as components of agriculture production systems. In Mali, Senegal, and Burundi projects will focus on fuelwood renewable energy technology.

Education and Human Resource Development

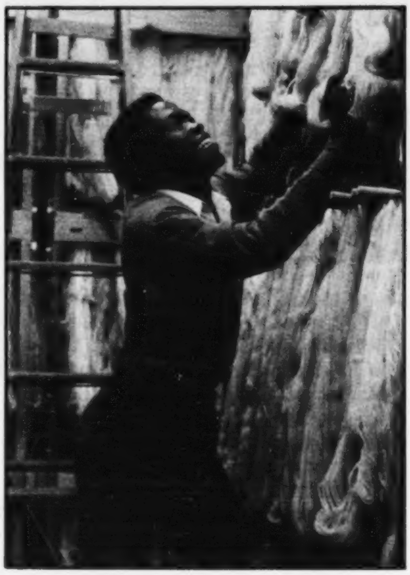
In fiscal 1983 AID will help expand Africa's human resources capacity. Attention will be devoted to: (1) administration and technical skills training, as pre-conditions to institutional development and the transfer of technology; (2) strengthening indigenous private voluntary organizations (PVOs) and the business-industrial private sector by helping them develop management and entrepreneurial skills; and (3) expanding training opportunities in the United States through the Africa Manpower Training Project.

An example of technical skills training and development administration is the Agricultural Education Project in Cameroon. It will create an agricultural university capable of training managers, researchers, planners and teachers who can effectively staff the agricultural support institutions of Cameroon.

Sahel Development Program

The Sahel Development Program was initiated in fiscal 1978 as a regional effort through which eight African countries cooperate with western donors and oil-producing countries of the Middle East (OPEC). Led by the United States and France under the Club du Sahel, 20 bilateral donors are now active contributors to a range of programs and projects to help the Sahel countries become self-sufficient in food and to build economic systems and institutions which will assure sustained economic growth and better and more secure life for their people. Donor assistance has increased from $1.1 billion in 1976 to $1.5 billion in 1980.

Skilled managers are needed as well as skilled workers.



Twenty years from now, the Sahel can be feeding itself. Our long-term economic objective is to assist the countries in the region to increase agricultural production to levels where food imports will not be necessary. Sound economies in the region will contribute to the stability of the countries and provide opportunities for U.S. investments as well as access to mineral resources such as uranium (Niger) phosphates (Upper Volta), iron (Mauritania), and bauxite (Mali).

As a result of development strategy accepted by the donors and recipient countries, progress is being made. Agricultural research programs have been expanded and strengthened, extension services are reaching the farmer, new agricultural technologies are being introduced, range management and animal health improvements are being applied. The agriculture policy picture is starting to improve. In Senegal and Mali, cereal marketing through the private sector is now being encouraged. Senegal, Niger, Mali and Upper Volta are adjusting cereal pricing policies to provide more incentive to the farmer for both production and marketing.

In the fiscal 1983 program AID will continue to support the Sahel development strategy and direct resources to the agricultural sector—particularly toward rainfed agriculture which constitutes the mainstay of Sahelian agriculture. AID is providing technical assistance and key inputs (seeds and fertilizer for example).

AID also is supporting long range capital projects to develop water resources in the Senegal and Gambia river basins. AID is supporting efforts by other donors through its regional program which concentrates on institutional and development planning. . . .

Of the $93.8 million request in fiscal 1983, $27.6 million will be allotted to regional programs directly benefiting the individual countries in the basin area. The balance will be allotted to seven countries in the region under bilateral programs. Our assistance to Chad has been limited to relief and rehabilitation, and this effort has been with other donors. The civil war has brought extensive damage to Chad's economy. Nevertheless we propose to continue monitoring the situation, and

Agricultural research programs have been expanded and strengthened.

we will look for improvements before undertaking any extensive or long-term development projects.

Sahelian problems with financial management of AID funds continue to be a matter of serious concern. Steps have been taken to correct serious deficiencies in the accounting and management systems. Host country documents are being verified and accounting systems have been examined to determine their adequacy for certification by AID officials as a precondition to disbursement of funds. To correct the deficiencies, training programs, workshops and teams have been developed to improve the financial management skills of the local institutions concerned with the Sahel programs and projects.

The Economic Support Fund Program (ESF)

The fiscal 1983 request for $325 million is intended to provide the United States with the resources necessary to stop the spread of further economic and political disruption and to support the efforts of friends and allies to deal with threats to security and independence. Economic Support Funds totaling $325 million are requested for Sudan, Somalia, Kenya, Mauritius, Seychelles, Djibouti, Zimbabwe, Zambia, Botswana and the Southern Africa Regional Program, Liberia, Niger, Senegal and Zaire.

These countries are currently experiencing a broad range of economic and political problems. These include balance-of-payments and budgetary deficits, external debt burdens, deteriorating terms of trade and declining output, and the threat of political instability.

While these funds have political and military, as well as developmental objectives, AID makes every effort to maximize their developmental, impact. For instance, in Zambia and Kenya our Commodities Import Program is targeted on agricultural inputs; in Zimbabwe 80% of the CIP is reserved for the private sector, and the rest of the program has a strong developmental character. We believe that ESF funds are a particularly versatile development instrument when used as program assistance in support of policy reform.

PL 480

The fiscal 1983 program request for PL 480 is $191.7 million. Of this amount, $117 million will be allocated to Title I. Within Title I, $43 million will be directed to Title III. The $74.7 million balance of the request will be devoted to Title II.

By legislation, PL 480 embodies several objectives, among them the economic and social development of recipient countries. The Africa Bureau is committed to fostering sustained development as the objective of its assistance through PL 480 food resources. Specifically, the Africa Bureau seeks to utilize PL 480 resources (sales revenues and/or commodities) to address and alleviate the underlying causes of the need for food assistance, particularly in the agricultural and rural sectors. The Administrator has instructed our field missions to enhance the effectiveness of PL 480 food aid by: a) seeking policy dialogue with host governments on ways to alleviate the constraints to improved food security; and b) increasing the degree of integration of PL 480 programs within the total AID development assistance program.

Self-help measures, under Title I use of local currency sales revenues, and policy dialogue, or integration with other forms of assistance are intended to enhance the development impact of Title I. The Title III program will be continued in Sudan and Senegal and a new program initiated in Somalia.

Title II grant commodities have been traditionally channeled into direct food distribution programs through maternal-child health centers, school feeding programs and food for work projects, all of which are administered by U.S. registered private voluntary organizations or by the World Food Program. Similarly under Title II Section 206, we are undertaking programs for food for development in Cape Verde, Mauritania and Upper Volta.

Other Donor Coordination

Other donor coordination deserves special emphasis at this time. The serious problems faced by many African countries can only be met by integrated projects and programs. Moreover, as certain governments find themselves less and less capable of meeting the recurrent costs associated with various projects, project and program planning requires an assessment of total donor activities as well as those of individual donors.

The extent of the problem is illustrated by the fact that although the United States is a major aid contributor in Africa, our assistance accounts for only 7% of total Official Development Assistance. There are no less than 52 bilateral donors in Sub-Saharan Africa: 17 of the Development Advisory Council of the OECD; seven Arab/OPEC; nine Arab multilateral, 12 other multilateral; and seven East Block. In addition, there were 34 PVOs associated with AID alone in fiscal 1981.

AID is promoting greater cooperation among donors in several ways by encouraging ongoing cooperative efforts in such donor groups as CDA (Cooperation for Development in Africa, formerly CADA) and the Sahel program, and through cooperative efforts with African groups such as ECOWAS (Economic Community of West African States), SADCC (Southern Africa Development Coordination Conference). We are also seeking opportunities for cofinancing with other donors, both bilateral and multilateral. □

ASIA: Continuing Economic Growth and Political Stabilization

U.S. economic assistance has contributed to the process.

A statement by
Eugene S. Staples
Acting Assistant
Administrator for Asia

For Asia, the Administration is requesting for fiscal 1983 $407.6 million in Development Assistance funds, $335.7 million in PL 480, and $225 million in Economic Support Funds.

Importance of Asian Development

Asia contains 51.8% of the world's population possesses vast human and natural resources, is the seat of two of the world's most remarkable civilizations, and its development and modernization are policy matters of large import to the United States.

The United States has fought three major wars in my lifetime in Asia. Today most of the Asian continent is relatively stable and at work for peaceful purposes, although one must deplore the unfortunate exception of the Indochinese Peninsula and the bitter Soviet occupation of Afghanistan. The United States can take pride in its contributions to the process of stabilization and development which has characterized the post-Vietnam war period in Asia. Our economic assistance programs have been a major contributor to the process.

Both the United States and the Asian nations benefit directly from this continuing process of economic growth and political stabilization. U.S.-Asian (excepting Japan) trade has been growing over the past ten years at a yearly rate of 20%. U.S. investments in Asia (excepting Japan) now total $8.4 billion. The ASEAN states in particular are demonstrating extraordinary capacity for growth. The five states which comprise ASEAN are growing at an average yearly rate of 6.8% at a time when the international economy generally is drifting and stagnant.

In spite of these positive trends in Asian development, most of Asia remains very poor. According to the World Bank, the Asia region contains about 75-80% of the world's poor. The percentage of poor people in the region ranges from 30% in Thailand, or 14 million people; to 50% in India, or more than 310 million people; to 86% in Bangladesh, or 87 million people. The average per capita GNP for the region is only $224, compared to $278 for Africa, $769 for Latin America and $970 for the Near East. Two countries—Bangladesh and Nepal—are included in the least developed category with per capita incomes of $90 and $130 respectively, while India, Indonesia, Pakistan and Sri Lanka are categorized as low income countries.

Even the extraordinary growth rates of the ASEAN nations as yet have not seriously transformed the poverty of th rural majorities in such countries as Indonesia and the Philippines, populations living in isolated and usually resource-poor regions. Generally, Asian population growth continues at rates considered far too high by the governments of the region. Health, nutrition and unemployment problems arising from a inadequate agricultural production base characterize the Asian populations.

AID Programming

AID programming in fiscal 1983 is designed in the light of the successes and failures of the past—AID's own record, that of other donors and the record, of course, of the Asian societies themselves—and of demographic, economic, social and institutional realities of the 1980s. AID arrives at its program decisions on the basis of macroeconomic analysis and through an intensive effort to learn from program evaluations. For example, this past year, AID conducted 40 program evaluations in Asia in addition to the numerous audits conducted by the Inspector General's office and by the General Accounting Office. We believe that AID's ability to make compass course corrections is improving.

The more salient of the Asian realities underlying our programming for the coming fiscal year are as follows:

First, an increasing recognition of the dynamism of the Asian private sector. One of the most timely new emphases in AID's program design is private sector development. . . . There is wide disillusionment in Asia with the record of public sector solutions for development problems, and the new AID initiative in private sector development is finding a receptive climate. . . .

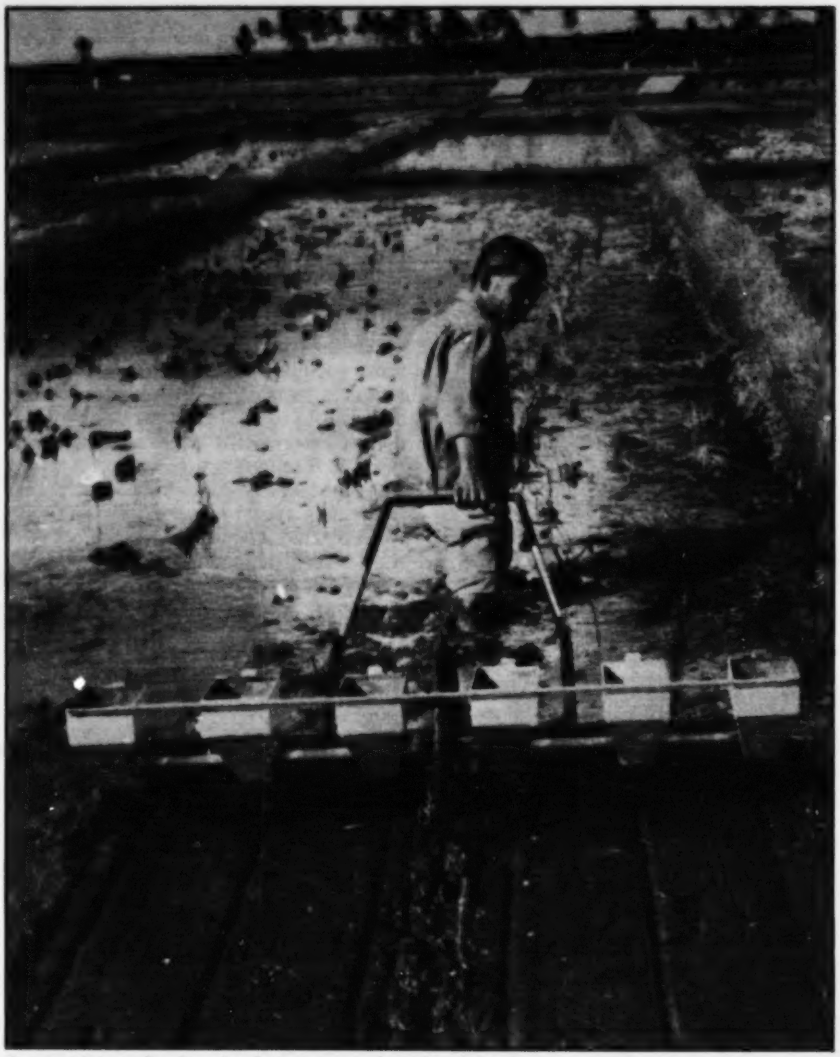
A second salient reality is demographic. In spite of the highly encouraging record of some of the Asian societies in reducing population growth rates over the past decade, with very few exceptions the Asian governments remain convinced that their populations are growing too fast and that this creates increasingly unacceptable pressures on limited natural resource systems. Generally, the problem is most serious in those countries which have the largest populations. India, Bangladesh and Pakistan, for example, contain a population of 873.9 million people. The population growth rate in India is estimated at 2.2%, in Bangladesh at 2.5%, and in Pakistan at 2.9% each year. In Indonesia, which has carried out a remarkably successful family planning program in the heavily populated central island of Java, the growth rate has come down from 2.7% in 1970, to an estimated 2.1% today. Thailand has succeeded in bringing its growth rate down to 2% in 1980 from 3.1% in 1965.

Health, nutrition and unemployment are continuing problems in Asia.

The point, of course, is that helping those societies which are dedicated to reducing population growth by methods culturally acceptable to the societies themselves remains important work for the U.S. foreign aid program.

A third salient Asian reality is the continuing need to worry about agricultural production. The achievements of the 1970s in regard to rice and wheat are highly satisfying to the Asian nations—and should also be a source of

Because of growing disillusionment with public sector performance, AID's private sector initiative holds great promise.



Appropriate technology leads to increased productivity.

pride to the U.S. Government, which played an important part in the research and training efforts underlying the wheat and rice green revolutions. But to achieve and to go beyond self-sufficiency to that point where the agricultural sector becomes a genuine motor of development for the very large poverty stricken rural populations is as yet only a dream in most of Asia.

AID's concentration increasingly is on those factors of production which are likely to generate such powerful increases in productivity. In addition to its continuing support for Asian agricultural science, AID is an important partner in major new Asian efforts to improve the productivity of the vast irrigation systems which dominate the South Asian subcontinent and on a lesser scale the Southeast Asian nations. Improving water management is a complex, multidisciplinary, multiprofessional challenge that no one really has mastered in the Asian circumstances. The new AID effort being mounted with the cooperation of the Asian nations is likely to be one of the most important development enterprises of the decade.

A relatively newer element in AID Programming in Asia also corresponds to the demographic and natural resource requirements of the Asian nations. This is programming in what variously is called social forestry, agroforestry and energy forestry. The purpose is to stop and to reverse the degradation of forests and uplands, to bring to very poor villagers access to and whenever possible direct control of genuine resources of energy and income. The benefits are multiple, including the downstream improvement of watershed and irrigation and power systems, and ultimately coastal fisheries. We are also working on energy policy problems with a number of the Asian governments, including conventional as well as non-conventional energy sources.

These programs all involve institution building, development and transfer of science and technology, and genuine innovation and experimentation. In Indonesia, for example, a consortium of American universities is at work in the difficult atmosphere of the outer islands creating a network of agricultural research and training institutions. In India, an imaginative cooperative program under the sponsorship of India's National Dairy Development Board, is using the highly successful dairy cooperative model it developed to create a system of oil seed cooperatives designed to overcome the large Indian deficit in oil seeds and to improve the income of small farmers. AID's assistance is channeled through the Cooperative League of America and the use of PL 480 commodities.

AID's Asian programs also give wide support to both American and indigenous Asian private voluntary agencies capable of reaching poor people on the ground. The small, innovative AID program in the South Pacific, for example, is mostly carried out through U.S. private voluntary agencies, while in a number of other countries the Agency provides co-financing for self-contained, country-level PVO activities in fields of AID priority.

Although in relative terms AID programs are much smaller than they were in the previous two decades, their concentration on key problems and AID's presence on the ground through our mission staffs give us the ability to discuss in a positive fashion a number of host country economic development policies. In Bangladesh, for example, the Bangladesh Government and the AID mission have worked together for years to use PL 480 commodity programs to increase private sector participation in fertilizer distribution—with notable increases in distribution and usage. In Thailand, as the result of a joint Thai-AID health program, the Ministry of Public Health decided to focus its health sector strategy on nutrition programs at the community level. To support discussions of development policy issues with recipient governments, AID is taking steps to strengthen its analytical capacity in both Washington and the field. □

NEAR EAST: Peace and Security Most Important Goals

U.S. economic assistance is essential in meeting those goals.

A statement by
W. Antoinette Ford
AID Assistant Administrator
for the Near East

For countries in the Near East Region, we are requesting $1.963 billion in Economic Support Funds (ESF) and $45.4 million in Development Assistance funds. Under a different appropriation, $325 million in Public Law 480 Titles I and II is planned.

For the Middle East, we are requesting $1.593 billion in Economic Support Funds. This includes $750 million for Egypt, $785 million for Israel, $20 million for Jordan, $8 million for Lebanon, $15 million for Oman, $6.5 million for the West Bank and Gaza, $8 million for Regional Cooperation and $500,000 for other regional activities.

U.S. interests in the Middle East are clear. The Administration's overriding goal is to help bring peace and security to the region. Our economic assistance programs are an essential element of this policy.

Egypt

To help support the economic progress in Egypt, we are requesting for fiscal 1983, $750 million under the Economic Support Fund, the same basic level as in recent years. In addition, $271.3 million is planned under PL 480—$250 million under Title I/III and $21.3 million under Title II. We are proposing that two-thirds of the resources made available under the Economic Support Fund ($500 million) be provided as grants. The balance of the Economic Support Fund resources ($250 million) and the PL 480 Title I would be provided as loans payable over a period of 40 years, this including a ten year grace period. Interest on the loans would be 2% during the grace period and 3% thereafter.

The Administration's request for Egypt is best understood in the context of the quest for peace and security in the Middle East and the rapidly changing, sometimes volatile, political and economic scene there. The assassination of President Anwar Sadat had economic as well as political repercussions for the Egyptian people. The orderly succession of President Hasni Muburak was reassuring, but he has inherited an economy beset with significant problems.

President Muburak already has initiated a broad and open discussion of the country's social and economic goals and priorities as well as the options available to achieve them. He has quickly reaffirmed the economic principles underlying President Sadat's "Open Door Policy" while simultaneously asserting that the ultimate purpose of increasing investment and hence productivity is to meet the needs of all Egyptian people. Attendant with this statement of Egyptian policy is the implication that sacrifices may be required to achieve the goal. We welcome President Muburak's statement of the goal as well as the Egyptian willingness to seek new thoughts and ideas about how it can be achieved.

Still, it should be recognized that the process of sorting out priorities, examining the trade-offs between current consumption and future productivity, and the many other difficult problems which confront the Egyptian economy will take time to resolve.

The Government of Egypt's introspective examination of its economic problems is timely. During the last year, the economy suffered several shocks in addition to the death of President Sadat. First, there was a worldwide softening in the oil market which forced Egypt to lower its export prices. While Egypt was able to protect its export market, lower prices have reduced anticipated foreign exchange earnings. In the near term, there is no basis for expecting a recovery of oil prices.

Second, non-oil exports declined in real terms, as apparently did receipts from tourism and remittances from workers abroad based upon preliminary data. Data concerning these last two items, combined with significant changes in government foreign exchange regulations, resulted in a sharp jump in the demand for foreign exchange and, hence, an open market exchange rate discount of 20% of the new rate.

Third, domestic inflation appears to be mounting significantly faster than the official, overall rate of 10%, especially for non-subsidized items.

Fourth, it is likely that domestic inflation is being fueled by a growing budget deficit and, concomitantly, by an apparent rapid growth in the money supply.

Even though real growth of the economy approached 9 to 10% in the past year, signs of significant weakness are evident. Large segments of the domestic manufacturing sector are not competitive with imports. Domestic price controls, administrative controls on output, restricted access to credit, an underemployed labor force, and drastically underpriced inputs—energy, for example—skew the allocation of resources in ways which will not serve the long-run needs of the Egyptian development effort.

Over the longer term, sustained economic growth and high levels of foreign exchange earnings will depend in large measure on Egypt's success in rationalizing its industrial and agricultural investment policies to move from capital- and energy-intensive industries to export-oriented labor-intensive industries. In order to make these investment decisions on a rational basis, the pricing system must be altered to reflect market scarcities.

The reforms can be carried out while at the same time maintaining Egypt's commitment to protect and improve the standards of living of its poorer citizens. The task now is for Egypt to make the policy choices to promote growth, efficiency and equity in the Egyptian context.

Decisive actions are needed:

- to promote a reduced rate of population growth. If the current high yearly increase of 3% is not lowered, Egypt's total population by the year 2000 will grow from the current level of 44 million to over 70 million;
- to bring energy prices more in line with world market prices. Egypt's energy prices now average about 20% of their economic value and cost the economy an estimated $3 billion per year in revenues;
- to rationalize prices of farm products, and thereby maximize production;
- to reduce consumer subsidies to essential items for the truly needy. Last year direct budget subsidies amounted to almost 15% of GNP.

Egypt's agricultural production must increase.

During President Muburak's official State visit to the United States in February he sought assurances from the Administration that the United States would do its best to provide economic assistance in ways which would be responsive to Egyptian needs and which also would promise more expeditious implementation.

The assurances were provided in the form of an agreed statement of principle between the U.S. and Egyptian governments. The substantive highlights of that statement were, in part, as follows:

Reforms must accompany raising the standard of living for the poor.

"It is in the interest of both Nations to assure the success of the economic reform program in Egypt in a manner that recognizes the substantial capabilities of the Government of Egypt to accomplish its intentions and the continuing commitment of the United States to provide resources that may be utilized to this end."

"The United States endorses the intentions expressed by the Government of Egypt to acknowledge the continued need for economic reform and progress and to undertake necessary measures toward that end;" and

"Both Nations are now embarking on a new phase of greater interest in economic progress in Egypt with a view toward making U.S. assistance, as permitted by U.S. law, be of an optimum impact and to assure Egypt a more active role in the allocation and disbursement of the U.S. assistance."

This statement marks the beginning of a dialogue to enhance the understanding between our two governments on Egyptian economic goals, policy reforms, sectoral strategies, more effective implementation and the ways in which U.S. assistance can help Egypt realize its considerable potential.

As it completes its sixth year since resumption of U.S. assistance, the AID program has attained considerable momentum. Total fiscal 1981 program disbursements were $1,027.1 million, nearly equalling obligations, which were $1,132.9 million. The most impressive fiscal 1981 gains were in project disbursements, which at $350 million were up 75% over fiscal 1980. Higher disbursements resulted from a variety of factors, including the increased use of quicker-disbursing program implementation modes, the maturation of a number of large capital projects, and greater attention to implementation by the Government of Egypt and AID.

AID program results are increasingly visible in such areas as electric power generation and distribution, village governmental systems and institutions, telecommunications, port capacity, commercial transport, urban water and sanitation systems, and an expanded population program that is building on accelerating acceptor rates in both cities and rural areas.

Despite the quickening pace of program implementation and the increasingly visible impact of U.S. assistance, a number of program and management concerns persist.

Israeli workers levelling a roadbed.

In fiscal 1983 expenditures will exceed obligations by an anticipated $150 million. The overall pipeline, however, remains substantial—$2.5 billion at the beginning of fiscal 1982. While the pipeline largely represents reservations of funds put aside for contracted costs of capital projects now in operation and on schedule, the pipeline also reflects the existence of some projects experiencing delays in final design or in execution. These projects are the subject of intensive dialogue and investigation by our mission in collaboration with Egyptian authorities.

Our concern with the pipeline also recognizes the urgency of demonstrating the benefits of peace to the Egyptian populace by improving their quality of life. Thus we have been attempting to design projects that are relatively quickly disbursing. The Basic Village Services and Urban Neighborhood Services projects are examples. Both the Egyptian and the United States Governments are anxious to expand the use of quickly disbursing assistance where appropriate and active consideration is being given to alternatives.

Our fiscal 1983 program represents a combination of short-term economic stabilization efforts and longer-term activities aimed at developing self-sustained growth with equity. The main components of the Economic Support Fund program are: $250 million Commodity Import Program to help assure the availability of essential raw materials and capital goods for industry and agriculture, some consumer items and to replenish the Trade Financing Facility; $85 million to increase industrial production and productivity, especially in the private sector; $154 million for infrastructure, including water and sewerage systems, and a new activity to expand the role of the private sector in housing; $35 million for a new agricultural activity based upon the 1981 evaluation of Egypt's research and extension services and the current review of Egypt's agricultural growth opportunities by a U.S. Presidential team; $98 million to finance the on-going portfolio of decentralization projects; $50 million for two continuing education projects; $50 million for new health and family planning activities to follow current sector assessments; and $28 million for other priority concerns, including manpower planning and development, technology transfer and feasibility studies, and an energy planning activity.

Israel

For Israel in fiscal 1983 we are requesting $785 million. Two-thirds, or $525 million, is requested as a grant. The remaining one-third, or $260 million is proposed as a concessional loan with a 10-year grace period, followed by a 30-year repayment period. Interest will be at 2% during the grace period and 3% thereafter, highly concessional terms. Together with the proposed FMS (foreign military sales) credits, U.S. economic assistance for fiscal 1983 tangibly reflects our commitment to support Israel, thereby encouraging it take the further risks necessary to achieve lasting peace in the Middle East.

In the Executive Branch's "Report on the Israeli Economy and Debt Repayment Prospects," submitted to Congress on March 9, 1982 we said:

"Israel, which in fiscal 1982 will receive about $3 billion in economic and

military assistance from the United States, continues to experience balance-of-payments problems and rapid inflation. Some success was achieved in managing both problems in 1981, but consistent execution of policies designed to encourage exports and restrain domestic demand will be necessary to avoid a recurrence of past difficulties. The inflation problem will be particularly difficult to solve, but over time should respond gradually to appropriately restrictive fiscal, monetary and income policies. The Finance Ministry has indicated that it plans to implement such policies. While Israel's $18.2 billion debt is high, with rapid but feasible increases in exports of goods and services, the financial burden of servicing external debt will become lighter."

Despite many serious problems, in particular the redeployment of military units from the Sinai, the continuing large oil import bill, and economic stagnation in Western Europe and North America, Israel achieved notable economic success in 1981. All major components of GNP grew impressively. At the same time, the rate of inflation dropped to 102%, still much too high, but an improvement over the 111% and 133% rates recorded in 1979 and 1980, respectively. Exports were up 5-6% over 1980, while civilian imports increased at a slightly higher rate. Overall, the non-defense goods and services deficit was probably between $2 and $2.5 billion, as compared with $2.1 billion in 1980. Further, since Israel's foreign exchange reserves continued to grow in 1981, it may be inferred that net capital flows were sufficient to finance the current account deficit and the amortization of Israel's external debt.

We should note however that the austerity program introduced in 1980 was substantially eased early in 1981. Excise taxes on many consumer items, including cars, color televisions, toys, sports equipment, records, shoes, stereo equipment, and the like, were reduced or eliminated; subsidies have been increased; and income tax brackets are being adjusted with a view toward reducing the burden of taxes. These measures appear to have had the intended effects: GNP growth at 4.8% for 1981, or more than double the 1980 growth rate; and a drop in the inflation rate from 133% in 1980 to 102% in 1981. The longer-run impacts of these measures are difficult to predict but there is a real possibility that high subsidies and reduced taxes can stimulate consumption to a level consistent with the goals of reducing inflation and maintaining balance-of-payments equilibrium. There is evidence that the Government is also concerned about these possibilities. In the latter part of 1981 it again took steps to rein in aggregate domestic demand.

Despite the progress achieved in 1981, Israel's basic problems remain unresolved. It must find a way to contain inflation and at the same time restore equilibrium in the balance of payments, and it must achieve these objectives without massive unemployment.

Over the next few years, Israel's success in sustaining progress towards balance-of-payments equilibrium will continue to depend to a large extent first on whether it can carry out a difficult austerity program; second, whether it continues to emphasize export growth; and lastly, whether it maintains its cash outlays for military purchases in line with available FMS funds.

As in the past, the ESF cash transfer program will be implemented on the assurance from Israel that it will import non-defense goods from the U.S. in an amount at least equal to the cash transfer level and that Israel will follow agreed procedures for selecting dry bulk carriers to ship grain.

Local women in Jordan call Food for Peace the "American feeding."

Jordan

In fiscal 1983 we are requesting $20 million for Jordan in Economic Support Funds. This is $5 million more than is currently planned for fiscal 1982. Of the $20 million, $15 million would be in the form of loans, with a 20-year repayment period, appropriately reflecting Jordan's "middle income" status. Over the past five years real growth in Gross Domestic Product has averaged 9% per year. Jordan continues to enjoy an overall balance-of-payments surplus, stemming from worker remittances, strong export performance and economic assistance provided under the Baghdad Agreements (amounting to about $1.2 billion yearly).

Until fiscal 1982, the centerpiece of our request was the $1 billion Maqarin Dam and Jordan Valley Irrigation Project. However, the inability of the interested parties to resolve riparian issues continues to make it impossible to begin construction of the project. Again, no request for financing Maqarin is contained in this budget.

However, water remains Jordan's priority development problem. Per capita daily consumption, approximately 13 to 15.6 gal. per day, is well below the World Health Organization minimum-safe health standard of 20.8 gal. Supply and distribution must be expanded, and use, intelligently and conservatively managed. In fiscal 1983, $17 million of the $20 million requested will be used for building water and sewer systems for the towns of Karak and Ma'an as well as technical assistance to the national water authority. These three projects are part of a countrywide development plan for urban water and sewerage services to deal with problems derived from rapid urban growth.

The balance of $3 million proposed for fiscal 1983 is planned for the Development Administration Training III project to finance the training of Jordanians in the United States.

Lebanon

Political discord and violence continue to plague Lebanon. The central government continues to seek national reconciliation and to extend its authority throughout the country, but a variety of illegal armed groups and militias are reluctant to cooperate and frustrate the government's efforts. The pattern is distressingly familiar: Tensions can escalate rapidly to crisis proportions and put the lives of innocent civilians in jeopardy.

In fiscal 1983 the Administration is requesting $8 million in Economic Support Funds of which $4.5 million will be channeled through U.S., Lebanese, and international private voluntary organizations operating in close coordination with the Government of Lebanon. We believe this is one effective way our funds can support our political interests in Lebanon. The funds requested will continue our support of health, education, credit cooperatives, vocational training, and private social institutions. These programs contribute directly to the welfare of the Lebanese people, especially lower income people most affected by the civil strife. In addition, the fiscal 1983 program will help strengthen Lebanese institutions in the reconstruction process by melding U.S. expertise with substantial flows of non-U.S. funds. To this end, $1 million is proposed for technical assistance to the Council for Development and Reconstruction and $2.5 million to establish an authority to administer Lebanon's national waste management program.

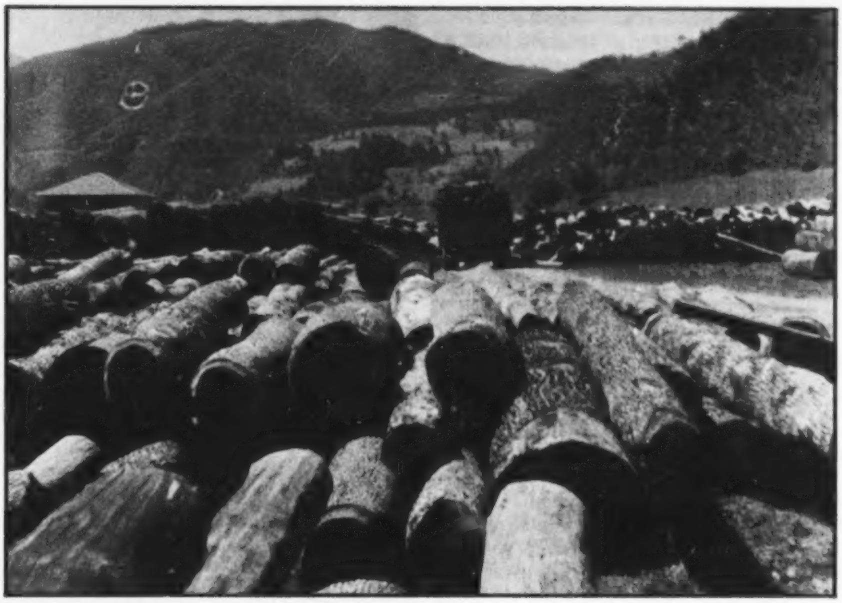
Oman

For Oman, we are requesting $5 million in grant funds and $10 million in loans for the Omani-American Joint Commission, the same level requested for fiscal 1982. The Joint Commission was established in 1980 as a part of our expanded economic, political, and security relationship with Oman. The Joint Commission finances development investments, offers opportunities for training, and facilitates commercial and technological exchanges between the two countries.

Oman, with its current oil revenues, has substantial financial resources; yet it remains a very underdeveloped country. With few natural resources other than petroleum and a largely untrained labor force, it faces the challenge of developing an industrial capacity and its modest agricultural and fishery potential to meet the needs of its people, as oil revenues diminish. The planned aid programs will assist the process of equitable development in Oman and provide tangible evidence to the Omani population of the benefits of our broadened relationship. The $10 million loan is planned for a dam and related facilities to increase the supply of water to the capital city of Muscat.

Regional Activities

We are requesting $6.5 million to continue our modest development effort for the West Bank and Gaza Strip. This program finances small scale development projects benefitting the predominantly rural and poor population. As in the past, the program will be implemented by U.S. voluntary agencies with Middle Eastern experience. Emphasis will continue to be placed in the areas of pre-school, vocational and higher education, health, sanitation, and land reclamation for agricultural development and improved community water systems.



Economic assistance to Turkey emphasizes economic stabilization.

We are also requesting $8 million in fiscal year 1983 to fund activities that can promote cooperation between Israel and its Arab neighbors, especially Egypt. Joint research projects have been started in the marine sciences, e.g., oceanographic, aquaculture and lakes management, involving U.S., Egyptian and Israeli institutions; infectious diseases; and psychological perceptions of the Middle East conflict. These activities bring Arabs and Israelis together on problems of mutual interest and may lead to self-sustaining relationships. For fiscal 1983, funding will be required for these on-going activities and to finance new proposals in such fields as agriculture, health, energy, and water. We anticipate that other activities will become possible as the normalization process matures.

Finally under the regional program, we are requesting $500,000 in fiscal 1983 to finance studies which relate to the design, implementation and evaluation of Economic Support Funds in the Near East region.

AID's programs in Lebanon contribute directly to the welfare of poorer people.

For Europe, we are requesting for fiscal 1983 $350 million for Turkey and $20 million for Portugal.

Turkey

We plan to provide $350 million for balance-of-payments assistance to continue support of Turkey's economic stabilization program developed with the help of the IMF, which continues to monitor performance. We plan to provide the assistance in the form of a $250 million grant and $100 million loan, repayable in 20 years with a five-year grace period and 5% interest throughout. The Turkish government has shown great political courage in implementing its economic reform program. It needs and deserves the continued support of its allies and friends. We will do what we can do to encourage this support.

The Turkish economic stabilization program was adopted in January 1980. Its major features are the maintenance of a realistic foreign exchange rate, elimination of government subsidies to cover operating losses of most State Economic Enterprises (SEEs), fiscal and monetary austerity, elimination of most price and interest rate controls, and liberalization of the foreign investment regime.

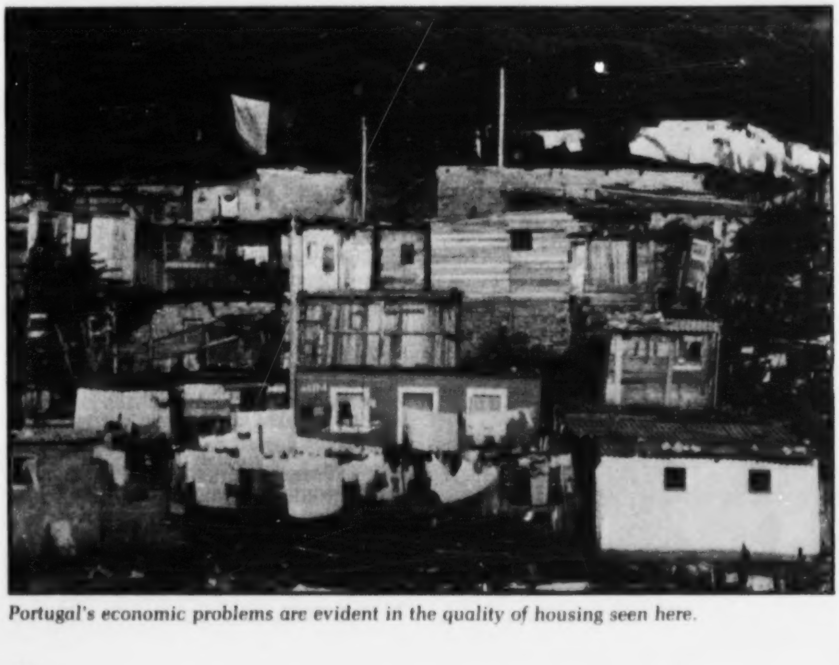
Turkey's performance in 1980 and 1981 provides strong evidence that the new policies have taken hold. Wholesale prices, which doubled in 1980, increased by only 25% in 1981. The gross national product grew about 4.5% in 1981, compared to absolute declines in 1979 and 1980. Exports surged in 1981. This, coupled with strong growth in remittances from Turkish workers abroad and modest import growth, led to an improved balance-of-payments outcome. The current account deficit declined from about $3 billion in 1980 to $2.1 billion in 1981. Continuing assistance is needed to maintain the momentum of the stabilization program.

A nation's human resources can be developed only through adequate training.

Portugal

The $20 million request in grant funds for Portugal is in accordance with the exchange of diplomatic notes dated June 18, 1979 between the United States and Portugal regarding Lajes Air Base in the Azores. In addition to military assistance, the United States also agreed to provide $80 million in economic assistance, subject to Congressional authorization and appropriation. The fiscal 1983 funds will be in the form of a cash transfer for the fourth and final tranche which the Government of Portugal plans to use for the economic and social development of the Azores, one of the least developed regions of Portugal where the per capita income of $700 is only one-third the national average.

Overall, Portugal's economic situation has improved markedly due to a conscientious application of an IMF stabilization program begun in early 1978, and with balance-of-payments assistance from 14 countries, including the United States. In 1980 the gross domestic product grew by 5.7%, inflation declined sharply, and real wages increased for the first time since 1976. However, the balance-of-payments is deteriorating as the result of drought, slowing export growth and the oil import bill, and may have reached $2 billion in 1981. Financing the deficit should not pose a problem given Portugal's credit standing, substantial gold reserves and access to IMF resources.



Portugal's economic problems are evident in the quality of housing seen here.

For the next three years, AID will oversee the completion of several ongoing projects and continue to provide some technical assistance and training. The pipeline has been reduced to $30 million and the current program should be terminated by the end of 1984, except for commitments to the Azores related to Lajes Air Base.

Development Assistance Programs

In addition to these ESF programs, we are requesting $45.4 million in Development Assistance funds for programs in Morocco and Yemen and for regional activities. In comparison to the ESF programs in the Near East these requests are modest. Nevertheless, they will finance programs critically important to the development plans of these countries.

Moroccan villagers wait to draw water from the village pump.

Morocco

Morocco is a long-standing friend and a country with considerable interest in U.S. trade and investment. Almost half the 21 million people subsist at poverty levels. Morocco faces an array of serious economic problems. The 1981 drought—the effects of which continue into 1982—severely reduced agricultural production, making it necessary to import 3 million tons of grain and thereby widening the trade deficit to about $2 billion. The economy is further hampered by the cost of the Sahara conflict, low productivity in agriculture and many public enterprises, almost total dependence on imported energy, a 3% population growth rate, and excessive import demands. The Moroccans are presently negotiating a one-year IMF standby credit and a Compensatory Financing Facility (cereals option) arrangement which would help the ailing economy through its current severe financial squeeze. Morocco will depend heavily on external concessional aid in the next few years to help with its domestic problems and to enable it to finance its heavy debt service obligations, currently estimated at more than 30% of foreign exchange earnings.

In fiscal 1983, a total of $13.5 million in grant funds is requested to directly address key Moroccan long-term development problems. AID's agricultural program is increasingly focused on rainfed areas where productivity is low and where most of the rural poor live. Projects in the agriculture sector include cereals production, applied research, and range management. Our high-priority family planning project is showing progress as results of pilot activities are being replicated on an expanded scale in several areas of the country. The health program will include a continuing management improvement activity and a nutrition project which integrates Development Assistance grants with PL 480 food resources. Other basic needs in Morocco are addressed through a low-cost housing program which combines Housing Guarantee and technical assistance and a training activity to improve the skills of government managers.

U.S. Economic Assistance to the Near East

	Fiscal 1983 ($ millions)
Economic Support Fund	1,963.
Egypt	750.0
Israel	785.0
Jordan	20.0
Lebanon	8.0
Oman	15.0
West Bank/Gaza	6.5
Regional Cooperation	8.0
Project Development and Support	.5
Portugal	20.0
Turkey	350.0
Development Assistance	45.4
Morocco	13.5
Yemen	27.5
Regional	4.4

Yemen

We are requesting $27.5 million in Development Assistance grant funds for the Yemen Arab Republic (YAR) in fiscal 1983. Yemen's geographic location makes the country's stability and prosperity important to its oil-producing neighbors and to the United States. The YAR is plagued by a low-grade guerrilla war fueled by the People's Democratic Republic of Yemen. The United States attaches great importance to the security and independence of the Yemen Arab Republic. We strongly support the right of the Yemeni people to develop their political, economic, and social institutions according to their own wishes and without foreign intervention. The U.S. assistance program, by addressing the economic and social causes of instability and poverty, both supports this goal and helps promote U.S. interests in maintaining the stability and security of the region.

While Yemen is a very poor country by usual social-economic indicators, its GNP grew explosively through most of the 1970s. However, as remittances peaked and then began to decline, foreign exchange reserves declined, government deficits have appeared and the balance-of-payments deficit has worsened dramatically. Given a very meager natural resource base, the YAR's most promising approach to development continues to be the mobilization of the country's human resources for agriculture and other sustainable enterprises.

Our development effort in Yemen focuses on a broadly based program of training and technical assistance to develop human resources and institutional capacities in such key sectors as primary education, agriculture, water resources, and rural development. In implementing this approach we are relying heavily on U.S. universities and private voluntary agencies. Of the $27.5 million requested, $25 million is for ongoing projects.

Regional Projects

In addition to these country programs $3 million is requested to continue a scholarship program for students from the Near East area at the American University of Beirut, $500,000 for project development and support requirements, and $900,000 for a new regional population activities project. □

LATIN AMERICA: The Economic and Political Challenge

Aid programs strive for equitable growth, democratic framework.

A statement by
Otto J. Reich
AID Assistant
Administrator for Latin
America and the
Caribbean

The countries of Latin America and the Caribbean are of fundamental and growing importance to our national security.

Latin America and the Caribbean accounted for $39 billion of U.S. exports in 1980, making it second to Western Europe as a market for our products. The region also accounts for 73% of all U.S. foreign direct and financial investment in the developing world. Ten million acres of U.S. cropland produce exports to our neighbors to the south, while we, in turn, depend on them for raw materials and other commodities.

The flow of this commerce and finance is essential to our own economy's ability to increase export earnings and create new jobs for U.S. workers. Exports account for one out of every nine manufacturing jobs in the United States, and the importance of foreign sales to our income and employment is likely to be even greater in the future. Our trading partners to the south, however, are faced with growing economic problems. Worldwide economic stagnation, high petroleum import bills for most, lower prices for major export commodities, a decline in tourism and high debt-service obligations have put severe strains on the balance-of-payments positions of many of these partners and their ability to carry out programs designed to bring about economic growth and development. Some face serious stresses arising from population pressures, resource scarcities and environmental degradation. Persistent, deep-rooted economic problems, in turn, have given rise to political strains and mounting terrorism.

Our national interest requires the unimpeded use of the sea lanes adjacent to North America and the Panama Canal. Half of U.S. trade including oil passes through the Panama Canal or the Gulf of Mexico.

Geographic proximity to Latin America and the Caribbean affects us in other ways. We are challenged, for example, by the increased flow of illegal immigrants and narcotics across our borders. To meet these problems we need to cooperate justly and generously with the countries involved.

Economic problems and inter-related social and political tensions have been growing in the region, particularly in the Caribbean Basin. The weakness of the international economy is making it difficult to implement the recovery programs sorely needed. In many cases, a legacy of unbalanced development and misguided economic policies has made domestic political conditions more volatile. The tensions so created contributed to the violence in El Salvador and threaten to do so also in neighboring countries. President Reagan's initiative in the Caribbean Basin has grown out of our concern for the political and economic deterioration.

El Salvador is beleaguered by the efforts of guerrilla subversives to destroy the economy. No reasonable political solution can be attained on the economic ruins of that country. There is no political victory if the country is destroyed.

In Nicaragua, where revolutionary change has already occurred, our interests lie in support of a pluralistic society.

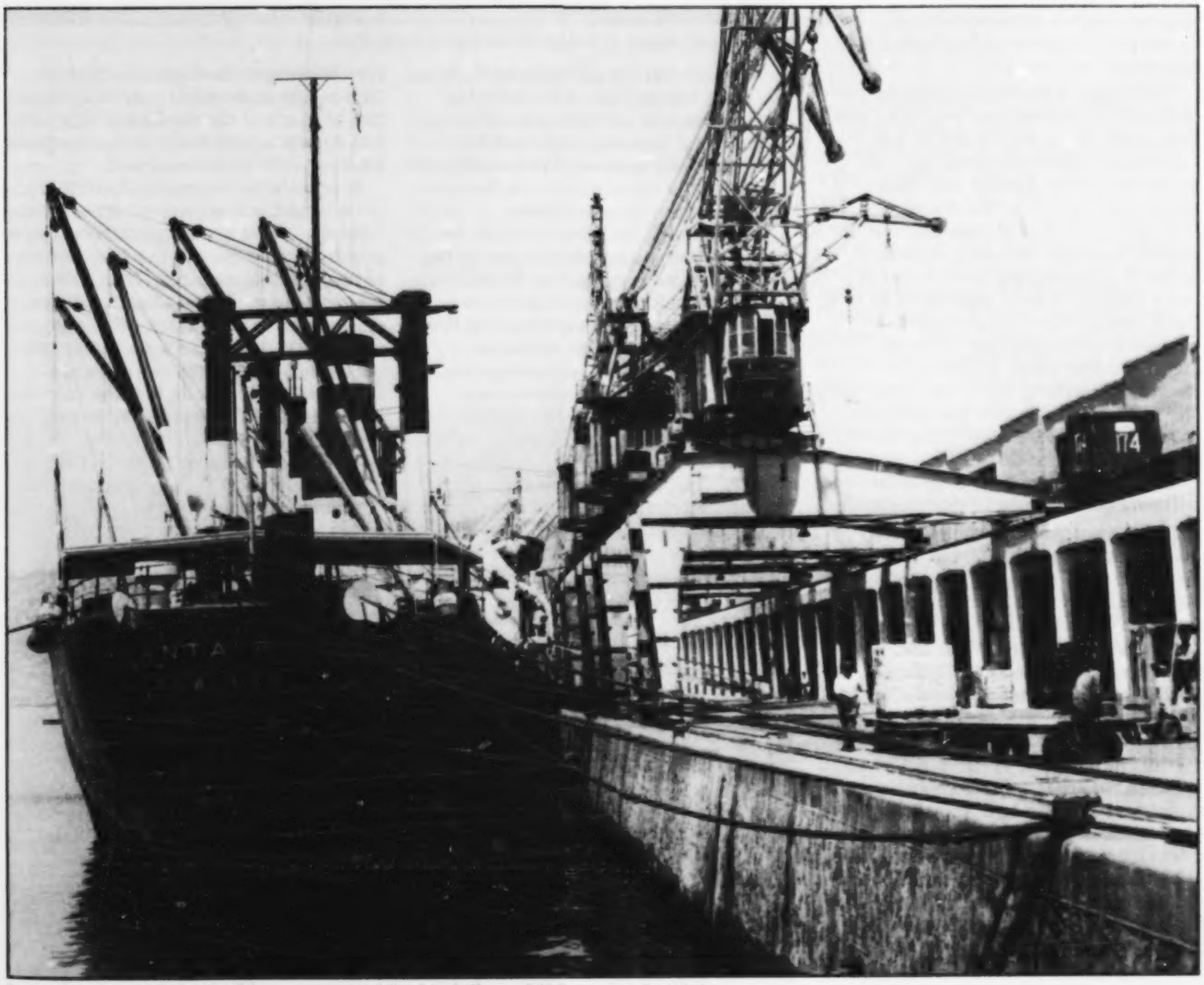
In Costa Rica, our immediate interest is to assist the country to recover from its most serious economic crisis since the 1930s. Costa Rica has traditionally been an example of democracy at work, demonstrating over most of the last two decades that an open society and free market economy can achieve high rates of growth while spreading the benefits of growth widely. Costa Rica's continued well-being is vital as a stabilizing influence in the region and is critical to our long-term interests.

In Panama, progress continues in efforts to foster a democratic political system and an economic and social environment conducive to improvement in the economy and in the successful operation of the Canal. Modest gains have been experienced in all sectors of the economy except agriculture.

In the Caribbean, it is essential that we bolster the economies of the area with self-sustaining productive activity and more job opportunities in order to avert greater frustration and a turn to radical solutions antithetical to traditional values.

Jamaica, after the crucial elections of October 1980, has designed an ambitious economic recovery program, begun the structural adjustment process, and assembled substantial support for its efforts from the international donor community and the private sector. Progress toward economic recovery has been undercut by a softening of the international market for bauxite and carryover effects of the years of economic decline. Jamaica did, however, register its first year of positive growth in 1981 after seven consecutive years of steady economic decline.

Guyana reported a slight rise in 1980 in its per capita gross domestic product, which had been on the decline for three consecutive years. However, severe economic problems persist due to low productivity and falling prices of its export products, such as bauxite, sugar and rice.



Latin America and the Caribbean accounted for $39 billion of U.S. exports in 1980.

The Eastern Caribbean Islands of St. Kitts-Nevis, Antigua, Montserrat, Dominica, St. Lucia and St. Vincent differ considerably in their stages of development, but through the provision of common government services and other means these islands seek to work together to minimize the inherent difficulties that their small island economies face. Because investment has been stagnant, enemployment is near 50% among young adults in some islands. Private sector production is hampered by small domestic markets, expensive and irregular cargo transport, the emigration of skilled workers, and a paucity of medium-to-long-term financing for new productive enterprises. The Barbadian economy has been a strong performer, together with that of Trinidad and Tobago. Grenada remains troublesome due to its political orientation, a situation that could repeat itself in other countries unless their economies recover and a sense of frustration is overcome.

The island of Hispaniola, shared by Haiti and the Dominican Republic, contains most of the population of the Caribbean outside of Cuba. Haiti remains by far the poorest and least developed country of the Western Hemisphere. Years of isolation and neglect have left its social, economic, educational, and legal institutions in ruins. Haiti is heavily dependent on U.S. trade, but an increasing number of U.S. businesses are beginning to invest there. A major effort is needed to alleviate poverty in Haiti, but it will be difficult to set in motion and will not bear fruit quickly. Recently the Government of Haiti announced policy and personnel changes which appear to improve its management of the economy.

The Dominican Republic has been severely affected by a plunge in world prices of all of its major exports—sugar, coffee, cacao, ferro-nickel and bauxite. The democratically elected government is attempting to deal with the country's problems by tightening imports, credit and public sector spending. In the meantime, preparations are continuing for the presidential elections scheduled in May.

South America, on the whole, is more developed than Central America and the Caribbean. Except for three countries—Bolivia, Ecuador and Peru—AID programs have been terminated or are in the final phases of termination. Bolivia, the poorest country of South America, has been plagued by political and economic instability. The most recent government, which assumed power on Sept. 4, 1981, has given some indication of its recognition of the need for changes but has yet to implement the political and socio-economic reforms that are sorely needed. AID is monitoring Bolivia's efforts to improve human rights and narcotics problems.

Ecuador, despite being a modest exporter of petroleum, remains one of the least developed countries in South America. Declining real exports and growing resource gaps are limiting the country's ability to meet the basic human needs of large segments of its population. In Peru, the government elected in July 1980 has taken bold initiatives to stabilize the economy and to promote long-term, broadly based growth. The focus is on the creation of jobs and increasing real incomes of the poor. These are difficult tasks, especially for a government which faces rising expectations generated by the return to democracy.

Poverty still affects one-third of the region's people.

The Dimensions and Significance of Lack of Development

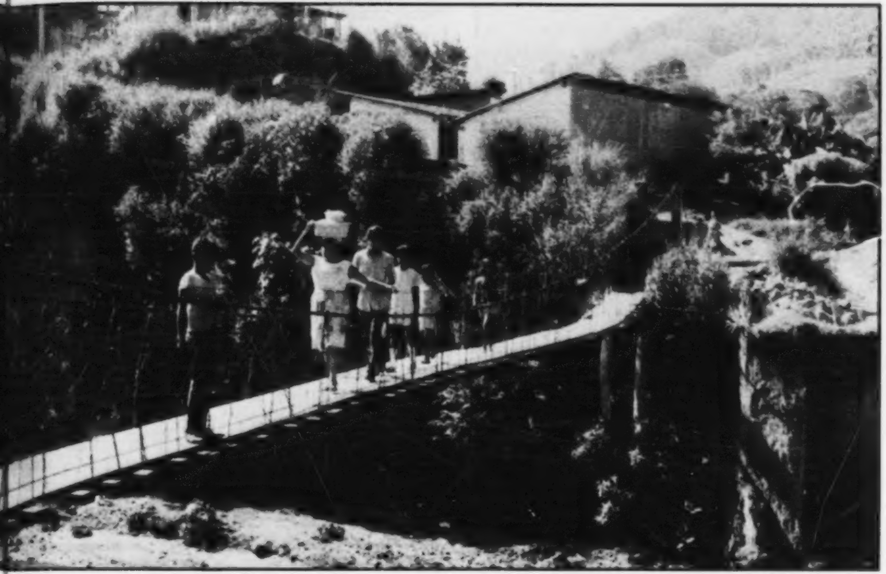
The worsening situations faced by many of the countries of Latin America and the Caribbean, particularly in the Caribbean Basin, call for increased efforts on our part to help restore economic and political stability and to promote equitable economic development in the region.

Poverty still affects one-third of the region's population and an average of 40% to 50% of the people in AID-assisted countries. In rural areas, the figures are even higher. Open unemployment rates have risen to 20% or 30% of the economically active population in much of the Caribbean and Central America, and many of those who do have jobs are underemployed.

Prospects for the rapid alleviation of poverty and unemployment are limited. Likewise, there are no quick fixes to the problems of resource scarcities and environmental degradation. It will also take time to correct the inefficiencies engendered by misguided economic policies. As the region's population expands by 60% to 70% over the next two decades, the United States must improve its ability to identify emerging problems and assess alternative responses. Most importantly, it must be willing to support these responses with definite courses of action.

AID Strategy

AID's strategy is to help strive for the alleviation of poverty, the achievement of self-sustaining growth, the enhancement and respect for individual civil and economic rights, improvement in the socio-economic status of countries of Latin America and the Caribbean into an open and equitable international economic system. Central to this strategy will be a stronger effort to encourage and foster private enterprise as a major component of the development process. Our help to the private sector will consist primarily of encouraging the allocation of adequate resources toward private-sector credit and or foreign exchange needs, particularly the imports of raw materials and intermediate goods, thus facilitating



AID's strategy is to alleviate poverty and achieve growth in an equitable economic system.

domestic production and employment without a further deterioration in the balance of payments.

Not only does this strategy spring from our humanitarian tradition, but we also see it as the most effective way of furthering U.S. interests. For this purpose, we will continue to work closely with other instruments of U.S. international economic policy and to harmonize our approaches for the acceleration of economic growth and development. We also will work closely with institutions that are needed to support the expanded efforts of the private sector.

Our efforts, however, must be predicated on the wholehearted cooperation of the governments and citizens of the other countries. This effort will work better if they are strongly committed to equitable development and sound economic policies. This collaborative approach will also be used in securing the continued assistance of other bilateral and multilateral donors, since the needs go far beyond the capability and responsibility of this or any other single nation. We will discuss, with other donors including the International Monetary Fund, the World Bank and the Inter-American Development Bank, possible reform measures to ensure that external assistance is utilized effectively so as to have the greatest possible impact on increased production and employment generation.

Ending poverty will depend upon creating sufficient jobs.

Fiscal 1983 Program

The proposed program for fiscal 1983 totals $600.6 million: $326 million, Economic Support Fund (ESF) monies; and $274.6 million, functional Development Assistance. Of the combined total, $305.4 million would be provided as loans and $295.2 million as grants. Other proposed U.S. assistance to Latin America and the Caribbean includes $185.2 million in PL 480 assistance and $118 million in Housing Guaranties.

Thirteen bilateral programs and three regional programs will be the vehicles for the implementation of the program. Of the Development Assistance and ESF resources programmed, some $297 million, or 49%, will be provided to Central America; $196.6 million, or 33%, to the Caribbean; $40 million, or 7% to South America; and $67 million, or 11%, for the LAC Regional program, which may be used for emergency ESF assistance, and to support such programs as those of the American Institute for Free Labor Development and the Partners of the Americas. The proposed Development Assistance program is divided among AID's functional sectors as follows:

- Agriculture, Rural Development, Nutrition: $127 million
- Population Planning: $13 million, or
- Health: $23 million
- Education and Human Resources Development: $40 million
- Selected Development Activities: $71 million

Here is a brief summary of what we will be doing in each of our functional sectors and with the Economic Support Funds:

Agriculture, Rural Development and Nutrition

Emphasis in this key sector continues to be on agricultural research, extension, and supporting activities that will result in greater food production, higher incomes, and increased employment for small farmers and other poor people in rural areas. In Peru, a new watershed management project will introduce irrigation systems, soil conservation, forestation and crop improvement programs in the sierra and high jungle areas. This is particularly important

Roadbuilding in Haiti, the Hemisphere's poorest country.

since only 3% of Peru's land base is considered suitable for intensive agriculture. Other new projects include agricultural education in Jamaica and agricultural planning in Panama. Ongoing projects in several other countries will continue to stress conservation of natural resources, forestry, fish ponds and promotion of agro-industrial activities.

Population Planning

These funds provide support for voluntary family planning services and contraceptives for the rural poor through paramedical workers and the private sector, as well as other activities designed to reduce the rapid population growth rate in the region. Much of this program is carried out by local private groups.

Health

Funding in the health sector provides for continuation of existing programs, especially low-cost delivery systems, as well as a new project in Peru to improve rural water systems and sanitation.

Education and Human Resource Development

Activities financed under this account will continue to focus primarily on relieving critical shortages of managers, administrators, technicians, and subprofessionals in both the public and private sectors. A new project in this area will be initiated in Jamaica. At the same time, we will continue our support for rural primary education and for nonformal vocational and adult education.

Special Development Activities

This sector will continue funding for a variety of activities, such as alternative energy programs, small community initiated projects and numerous projects undertaken through private voluntary organizations. In addition, we will be assisting the private sector by transferring modern technology and management practices (Ecuador), furnishing loans and technical assistance to small businesses that normally cannot borrow from commercial financial institutions (Haiti and Peru) and supporting other programs. An innovative program in the Caribbean region will establish an inter-island shipping and marketing system with private-sector participation.

Harvesting coffee, a major export product in Costa Rica.

Economic Support Fund

AID will direct these funds to support stabilization and recovery programs in the Caribbean Basin. Balance-of-payments support will be provided to Costa Rica, El Salvador, Honduras, Jamaica, and the Eastern Caribbean. Other assistance will be targeted largely in support of private-sector activities in industry and agriculture. The Private Sector Promotion project in Honduras will revitalize the private sector's role in production and employment, while a small grant to Jamaica will provide for technical consultancies and training.

The countries included in the Latin American and Caribbean region face growing economic problems, sometimes combined with political instability. These problems often are exacerbated by rapid population growth, high unemployment, rising balance-of-payments deficits, and restrictive national policies which aggravate rather than ameliorate the conditions affecting the individual countries.

The Agency for International Development remains committed to its traditional roles in the areas of small-farm agriculture, health, population, education and human resource development. At the same time, we remain sensitive to the need to counter persistent and deep-rooted economic problems which have often resulted in varying degrees of political turmoil. Thus our mix of projects must include quick-disbursing mechanisms that accelerate production and create jobs in the private sector, as well as activities that address long-term concerns. We realized long ago that the resources available to the Agency are not sufficient for the task. Therefore, we have assumed the additional role of catalyst and risk taker, attracting complementary public and private resources. Our efforts will continue to be directed to those countries which have demonstrated a willingness to implement appropriate policies upon which sound development programs can be carried out. Our national interests can best be served by working toward the goal of sustained, broadly-based growth within a framework of economic and political freedom. □

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